Dermatology Residents’
International Grant Handbook

Education and Volunteers Abroad Committee (EVAC)
American Academy of Dermatology

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Program Directors

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GENERAL INFORMATION

Congratulations on receiving the AAD Residents’ International Grant. In an effort to promote international educational opportunities, the American Academy of Dermatology, through the Education and Volunteers Abroad Committee (EVAC) is pleased to provide funding for fifteen U.S. and Canadian senior dermatology residents to participate in a 4 to 6-week elective in a developing country where the Committee is establishing dermatology support programs and teledermatology consult services. The 4 to 6-week rotation will be available, and we will assign you to a rotation period based on your preferences in the application process. Our goal is to have at least a one week overlap of the rotations between residents so that the rotation can be successfully passed from one person to the next.

Grant recipients will receive a $1250 stipend for room and board, evacuation insurance, outreach travel expenses ($250 have been added to help expenses and promote outreach visits), and other needs. This is in addition to airfare, which will be booked through the AAD Travel Desk and paid for directly by the AAD. Recipients will be required to purchase evacuation insurance from International SOS ($130 per trip) or Medjet Assist in ($235 for a 1 year registration). The resident may also purchase evacuation insurance from other providers, as long as it is cleared with the AAD prior to purchasing. Check with your University, as some offer free evacuation insurance to all affiliated residents and faculty—if that is the case, you will need to supply proof/confirmation of insurance that satisfies this requirement.

You will have an orientation with Boipelo Dibotelo on the first Monday of your rotation. The payment for your housing ($25/day) is due during your and is paid by debit or credit card to Boipelo Dibotelo that morning. On the first Wednesday afternoon of the rotation, you will have an interview with the Ministry of Health, in order to have practicing privileges in Botswana. Bring a book because the wait can be from 1-3 hours. See checklist below for details about the items you need to bring to the Monday morning meeting with Boipelo in order to ensure your application is complete and ready for the interview on Wednesday. If you forget your passport photos there is a women who has a street stand that will be able to take these for you in 5-10 minutes for less than 40 pula.

Your trip will be completely coordinated by Carrie Kovarik, MD, Associate Professor of Dermatology and Infectious Diseases at the University of Pennsylvania (carrie.kovarik@uphs.upenn.edu), and Dr. Adam Lipworth, Associate Physician at Brigham and Women's Hospital (alipworth@gmail.com). They are assisted by Connie Tegeler, (CTegeler@aad.org, International Affairs Specialist with the AAD). Further details on travel arrangements, daily schedule, and the consultation service are explained below.

During or at the completion of your rotation, you will be required to give a powerpoint presentation to one of the following: faculty and students at the Princess Marina Hospital morning report, Baylor faculty at the Baylor Center of Excellence (COE) on the Princess Marina campus, or one of the outreach district hospitals, as well as your home institution. This will also be attended by any other health care workers that would like to attend. Please coordinate the exact date with Dr. Miriam Haverkamp (for the PMH morning report), Dr. Mogomotsi Matshaba (Mogo) (Clinical Director of the Baylor pediatric clinic), or the contact person at the outreach district.
hospital. The powerpoint should include the photos of relevant cases seen during your rotation or be focused on a topic as requested by the local clinicians. Teaching during outreach clinic visits is highly encouraged and much appreciated by the local clinicians. This presentation should either be emailed or mailed on a CD to Carrie Kovarik (carrie.kovarik@uphs.upenn.edu) upon completion of your rotation. The presentation may be posted on the africa.telederm.org website as a teaching tool for health care workers in developing countries who are treating patients with skin disease.

In addition, a one page report of your rotation should be submitted to Carrie Kovarik and Connie Tegeler upon completion of your rotation. The report should include a summary of your daily activities and a description of what you gained from the experience. Please also include suggestions for improvement of the program. In addition, you are required to complete the AAD patient log of all patients seen (who they were from, where they were seen, and the presumed diagnosis), as well as keep an updated version of the biopsy log.

Lastly, you should log on and register with africa.telederm.org. This is the teledermatology site where you will submit difficult cases throughout your visit. Your goal should be to submit AT LEAST 5 consults during the month. These cases are shared with the other sites throughout Africa.

We are pleased that you have decided to be a part of this wonderful experience! Below, please find the detailed checklist for your rotation:
RESIDENT CHECKLIST FOR TRAVEL TO BOTSWANA

PRE-TRAVEL

☑ The most recent version of the Dermatology Residents’ International Grant Handbook will be emailed to you, but will also be available for download from the AAD website: http://www.aad.org/members/international/_doc/HandbookforResidentsInternationalGrant_001.pdf. Read it ALL as soon as possible, since all details of the trip are explained.

☑ You will also be supplied with the following documents through email: Outreach schedule, AAD patient log template, example of the biopsy log that you will be keeping, previous resident trip summaries, as well as names and emails of residents that will overlap with you. Please familiarize yourself with these documents.

☑ Determine exact dates of travel. The dates of the rotation will be assigned by Carrie Kovarik based on your preferences. You should finalize the exact dates of travel with her in order to arrive for the rotation at the appropriate time. If you plan to extend your stay in Africa in order to travel, all extended travel must be done AFTER the rotation is complete.

☑ Make sure your passport is valid and does not expire for at least six months following your intended return and has at least three blank pages. Note, if you are not a US citizen, you may need to obtain a visa before traveling to Botswana. Check the Botswana Embassy website for details (http://www.botswanaembassy.org/).

☑ Book flights through the AAD travel agency, with approval from Carrie Kovarik and Connie Tegeler.

☑ Schedule an orientation call with Dr. Adam Lipworth (alipworth@gmail.com, alipworth@partners.org) in the month prior to departure. Dr. Carrie Kovarik (carrie.kovarik@uphs.upenn.edu) will sometimes do the orientation calls (e.g. for UPenn residents).

☑ Complete and return release to Connie Tegeler (Fax : 847-240-1920)

☑ Purchasing medical evacuation insurance, such as International SOS ($130 per trip) or Medjet Assist ($235 through the AAD for a 1 year registration http://www.aad.org/pm/resources/dermsource/medjet.html), unless your school provides evacuation insurance to its students free of charge (ie, Penn):

☑ Get immunizations/medications

    Rec: Hep A and B, Typhoid, update Td

    Malaria prophylaxis (if traveling to a malaria area outside of Gaborone), other medications such as post-exposure prophylaxis for needle sticks (see handbook, these are available to you in Botswana if needed)

    Get tuberculin skin test

☑ Inform Boipelo Dibotelob (dibotelob@botswana-upenn.co.bw) our administrator in Botswana, of your itinerary. A driver from the Botswana-UPenn Partnership will pick you up at the airport, so it is critical that this be done. The driver will have the keys to the flat where you will be staying. Copy the itinerary to Carrie Kovarik (carrie.kovarik@uphs.upenn.edu) so she can be sure it has gone out to
Boipelo. Please do this at least 3 months ahead of time so that she can have time to make the arrangements in her schedule.

- Heather Calvert (hcalvert@mail.med.upenn.edu), the Administrator of the Botswana-UPenn partnership at Penn, may contact you with further information and/or instructions. See http://www.upenn.edu/botswana/visitorinfo.html for a slideshow on Botswana and more information. There is also a useful packing list at this site.

- Register your travel plans online with the Department of State: https://travelregistration.state.gov/ibrs/

- Log on and register with Africa.telederm.org

- Review previous African dermatology cases by logging on to africa.telederm.org and clicking on curricula. There you will find several case based lectures that will help familiarize you with the type of dermatology you will see.

- Read trip summaries that will be provided to you by Carrie Kovarik. This will give you a better idea of what to expect.

- Email the resident that will be handing the service off to you, about 2 weeks prior to departure, in order to inquire about supplies that may be useful for you to bring. When you are there, make sure you email the incoming resident with a list of useful supplies.

- Gather materials that you may want to bring for the trip, such as disposable punch kits, suture, lidocaine, curettes, kenalog, bandaids, etc in order to replenish the biopsy supplies.

- Bring protective eyewear and an N95 mask

- Credentialing: Any resident or faculty member (NOT students) who plans to practice medicine in Botswana MUST submit documentation and complete an application for exemption from registration with the Botswana Health Professions Council (BHPC).
  - Complete the form and include the following with your application:
    - 4 x Passport Photos
    - Notarized copy of passport
    - Notarized copy of medical school diploma (NOTE: If your diploma is written in Latin, it should be translated to English and then notarized.)
    - Notarized copy of your state license
    - Copy of your resume / CV
    - All else on the form will be N/A
    - Letter of recommendation (original) that will be sent to you from Carrie Kovarik. Please sure to give her your home address.
    - Signed copy of the letter of recommendation from your program director that was used for the AAD grant application.
  - The completed application can be hand-carried with you to Botswana. Botswana-UPenn Partnership staff can assist in completing the application in country. Forms are delivered to the BHPC on Monday or Tuesday and then physicians are taken to the BHPC the Wednesday following arrival for swearing in. Please note that physicians cannot practice medicine until the
BHPC registration is completed so you should plan to arrive before Monday in order to process the application in time for the standing Wednesday appointment.

- Bring copies of all documents and the application form with you to Botswana. (Do not check in luggage.)
- Please note that applications may be submitted to the BHPC on Mon or Tues. Wednesdays are the days when applicants must appear in person to the BHPC to receive their registration certification.

**IMMIGRATION IN BOTSWANA**

- When you land in Gaborone you are required to complete an immigration form. You must put down as the physical address where you will be staying as: Pilane Court, Plot 154/155, Ext 9, Gaborone

- Check the box that states you are there as a tourist/holiday – NOT THAT YOU ARE WORKING

- Ask for the amount of days you will be in the country for. i.e. 60 days. You are allowed 90 days per year.

**DURING TRIP**

- **Introduce yourself to key contacts** at Princess Marina Hospital (see Contacts list in Guidebook for phone numbers): Dr. Mogomotsi Matshaba (Mogo) (Clinical Director of the Baylor pediatric clinic), Dr. Pina (Cuban doctor who will be in PMH dermatology clinic), Dr. M Kayembe (pathologist at the National Lab who will help with biopsies), Dr. Miriam Havercamp (Botswana-UPenn physician), and Boipelo Dibotelo (Botswana-UPenn Partnership administrator).

- You must keep a **log of all biopsies** performed (both in the biopsy book and the excel electronic version of the log) and follow up results with Dr. M Kayembe (cell (+267) 71849217). This log will be handed off to the next resident for continuity. When the patients return, the result should be recorded in their record. If no biopsy result is found in the log, please call Dr. Kayembe for the result.

- You must keep a **log of all patients** you see while you are there, including outpatient clinic, outreach clinics, and consults. The excel template for this patient log is provided by the AAD and must be returned to Connie Tegeler at the end of the rotation.

- Submit **biopsy slides for consultation** to Carrie Kovarik that are either not straightforward or are requested by Dr. Kayembe through the telepathology microscope. Send Carrie Kovarik a notification of the consult, which well the slide is in (Well 1-4), a brief history, and clinical photos (through africa.telederm.org). She will review the slide and send a histologic description, histology photos, as well as a differential diagnosis, to the referring resident and Dr. Kayembe.

- **Outreach clinics** are conducted every Thursday. There is a master schedule of outreach visits that should be followed. Although there is a schedule, **please call the outreach contact listed in the guide at least 1 week prior to your visit** in order for them to collect patients and request possible lectures. Also arrange a ride to the site with a driver at least 3 days prior (such as Mr T, etc)

- The **dermatology consult phones** (dermphone 1 and 2, for when 2 residents are present) should be carried with you M-F from 8AM to 5PM for consultations.

- Submit AT LEAST 5 consults during the month to the [africa.telederm.org](http://africa.telederm.org) site.

*Updated October 2013*
- Give a **powerpoint presentation** to the clinicians at the Baylor COE, PMH morning report, or at any of the outreach clinics.

- The dermatology consult phones (numbers 72731961 and 72659078) AND the biopsy log should either be handed off to the next resident or returned to **Boipelo Dibotelo** upon completion of the rotation.

**UPON RETURN**

- **Send your presentation, patient log, and updated biopsy log** by email or mail on a CD to Carrie Kovarik upon completion of your rotation (Send Secure email would be best for the log).

- **Submit your one page trip report/rotation summary** to Carrie Kovarik upon completion of your rotation, including a description of what you gained from the experience, as well as suggestions for improvement of the program.

- Post-trip tuberculin skin test is recommended (8 weeks after returning)

- Update the handbook with your comments/experiences-- send updates to Adam Lipworth ([alipworth@gmail.com](mailto:alipworth@gmail.com)) and Carrie Kovarik ([Carrie.Kovarik@uphs.upenn.edu](mailto:Carrie.Kovarik@uphs.upenn.edu)).
INTRODUCTION AND CODE OF CONDUCT

Dumela! (Hello) Welcome to your dermatology elective at Princess Marina Hospital in Gaborone, Botswana. This is a part of the Botswana-UPenn Partnership. This book will help you get ready for the trip, help you get settled once you arrive, introduce you to the hospital and the system where you will be working. It will also help you have fun when you are there. Hopefully a quick read through of this document will help ease the transition.

While in Botswana you will be representing not only yourself but also the University of Pennsylvania and the American Academy of Dermatology. It is critical that you remember this at all times. Public errors in judgment or conduct in Botswana are likely to not only be a problem for you, but could result in compromising the entire program. You are all adults and cannot (will not) be monitored. It is up to you to think carefully about the potential negative implications of questionable behavior.

In addition to being aware of our public appearance, there are potential problems that could occur in the privacy of our flats. The communal living could put some unusual stresses on the expected level of conduct. One of the true benefits of this elective is the opportunity for faculty, fellows, residents, and students to interact in an extremely informal way. Our intension is to promote this part of the experience. Please be considerate and flexible when it comes to living arrangements.

So, have fun but please don’t do anything dangerous or dumb.

Things to remember:
1) You represent the American Academy of Dermatology, the University of Pennsylvania, the Botswana-UPenn Partnership, and Baylor College of Medicine (for more information on these partner programs, see the section on About Princess Marina Hospital below). Your actions, positive or negative, intentional or unintentional, have implications for the entire program.
2) You live communally. Be mindful of the “rules of the flats” (see section below).
3) Being nasty or pitching a fit in nearly any setting in Botswana is unlikely to further your cause and may result in your being sent home early.
4) If you travel outside of Gaborone or Francistown, it is important that BUP staff (Boipelo Dibotelo) knows your itinerary. This is so that we know where you are in case there is an emergency and you need assistance. (This HAS happened in the past.)
5) You are living in A DEVELOPING COUNTRY IN AFRICA. All of the luxuries of life available to you in the United States may not be available to you in Botswana. Please be flexible, adaptable, and accommodating. You will be living at a standard higher than most people in Botswana, and the accommodations provided are more than comfortable.

Updated October 2013
ABOUT BOTSWANA

Background
Botswana was formerly a British “colony” (technically it was a protectorate which is slightly different) known as the Bechuanaland Protectorate. It received its independence in 1966, and at that time, the name was changed to Botswana. Botswana is now a parliamentary republic, whose current fourth president, Ian Khama, is the son of the first president, Seretse Khama. Education and healthcare are free; and the national literacy rate is above 80%. Since 1966 the country has continued to grow, thanks to its flourishing diamond economy, beef exports and good balance of payments. In addition, tourism is a growing sector thanks to the large nature preserves and good country conservation practices.

Location
Botswana is a land-locked country, slightly smaller than Texas, in the center of Southern Africa. The Tropic of Capricorn runs through it. It is bordered by South Africa on the south and east, Namibia to the West, Zambia and Angola to north, and Zimbabwe on the northeast. It encompasses 600,370 square kilometers, of which, only 15,000 square kilometers has water. It is predominantly flat to gently rolling tableland, with the Kalahari Desert to the southwest, occupying 87% of the territory.

Gaborone
Gaborone (pronounced “Ha-bor-ron-ee”…g’s are pronounced as h’s in Botswana, e’s are not silent) is located in the southeastern corner of Botswana on the Notwane River, a mere 9 miles (15 km) from the South African border. Also called “Gabs” by expatriates (with the g pronounced), it is the capitol city. It combines feelings of both rural Africa with tin roofed houses and high-rise office buildings. There are modern malls on the outskirts of town but few sidewalks and street lighting. The Princess Marina Hospital (PMH) opened in 1966 at the time of independence and is in the center of Gaborone. The University of Botswana is also near the hospital.

Climate
The climate is semiarid with cool winters (June-August) and hot summers (December-February). The country suffers from periodic droughts given the desert climate. The rainy season in the summer is characterized by intense, brief, dramatic thundershowers. Average daily temperatures range in January from 22°C/71°F – 33°C/91°F and in July from 5°C/41°F –19°C/66°F. Clearly the overall temperature range can be quite wide. Typically there are long periods of bright sunshine daily throughout the year with clear skies and low humidity. Summer days can be quite scorching, particularly before the rains come. In the winter months a fleece or sweater is a must in the morning and at night. Most buildings do not have heating and there is little air conditioning.

Demographics
Botswana is a sparsely populated country of 1.8 million. Because of the uninhabitable Kalahari Desert, the population is heavily concentrated along the eastern corridor, from the capital city of Gaborone to Francistown. Of the population, 35% are 0-14 years old; 61% are 15-64 years old; and only 4% of the population is older than 65 years. Most people are Tswana (or Setswana), and
the remaining are Kalanga (11%), Basarwa (formerly known as “San” or “bushman” which is considered a derogatory term) (3%), and other (7%) which includes Kgalagadi and white.

Botswana has one of the highest HIV/AIDS infection rates in the world with approximately one quarter of the population infected. The effects of excess mortality due to HIV/AIDS, has caused life expectancy to drop to ~50 years, infant mortality to increase to 45 deaths/1,000 live births, and to lower population and growth rates. In addition, the socioeconomic impact is immense including loss of skilled laborers and teachers, loss of per-capita household income, and a high number of orphans.

**Nationality**
The people of Botswana are Batswana, and one person from Botswana is called a Motswana. Using the term “Botswanan” will identify you are an uninformed foreigner.

**Religion**
70% are Christian, 7% have indigenous beliefs, and 20% have no religion. Note too that many Batswana may also mix some African Traditional Religious or Badimo beliefs into their other religious practices (e.g. consulting medicine men for advice).

**Language**
English is the official language, but Setswana is the national language and is widely used (79%). Many older Batswana only speak Setswana. Young children are taught in Setswana until 4th grade so small children also may not speak English.

**Economy**
Since its independence in 1966, Botswana has maintained one of the highest rates of socio-economic and infrastructure growth. It was transformed from one of the poorest countries in the world to a middle-income country with a per capita GDP of $14,100 in 2008 but fell precipitously in the recent economic downturn. AIDS is threatening this remarkable economic growth. Diamond mining drives the economy, and accounts for >1/3 of the GDP and 75% of export earnings. Other important industries include tourism, financial services, subsistence farming, and cattle. Recently large amounts of gas have been found in the Kalahari. Despite this stability, poverty remains an important concern, as there is a large gap between rich and poor, unemployment is officially around 24% and unofficially close to 40%, and women head approximately half of households.

**Greetings & Respect**
It is very important in Batswana culture to greet everyone. People usually greet one another by saying hello (even strangers). “Dumela mma” (to a woman) or “Dumela rra” (to a man) is the minimum Setswana everyone should learn. Recognition is very important to Batswana and to ignore even a greeting is considered very rude. Also be aware that seniority and age carry a lot of weight in Botswana. Children are generally taught to obey their elders. Recognition and respect for elders carries through to business and government. If you are a student traveling to work in Botswana, please note that the characteristics that often make for a successful student in the United States (demonstrating knowledge, questioning the status quo, selfpromotion, etc.) can be construed as insulting and offensive to Batswana. You are in Botswana to work and to learn; you are not there to change the way things are done.
Cattle
Beef is a major export in Botswana and cattle are highly valued. Wealth is often measured by the number of cattle owned. Cattle posts are places where boreholes are drilled down to the level of groundwater. Generally the cattle roam free (“free range beef”) at the post and are not fenced (they don’t wander too far from the water) but they are looked after by a Modisa (herder). It is considered rude to ask someone how many cattle they have; it would be like asking someone how much money they have in the bank.

Kgotla
The kgotla is the traditional meeting place in villages where disputes are brought before chiefs and issues of public interest are discussed. Kgotla is both the name of the meeting place (a semicircular enclosure usually under the shade of a tree), and the name for the meeting, and serves as both the village council and the tribal court. Traditionally only men took part in these tribal meetings, but now women may attend. The kgotla is an early example of democratic principles at work. Anyone who attends the kgotla may speak. (For this reason, some kgotlas may meet for a number of days.) Ultimately, however, the kgosi (chief) makes the final decision. Kgotlas still play an important part of decision making and government in the villages outside of Gaborone. If you are working in a village, it is important for you to visit the kgotla and introduce yourself to the local leaders.

Birth Dates
Many older or rural Batswana don’t know the exact date of their birth. Births in rural areas are often linked to a season or a holiday or a memorable local event. Also, Batswana may give the year of their birth rather than their present age when asked how old they are.

Body Language
Like much of the world, Batswana do not have the same concept of personal space as Americans and may stand closer than people do with one another in the US. It is also not uncommon for men to hold hands. You may also encounter a slight variation on the traditional western handshake, in that Batswana will shake hands, grip thumbs (with the same hand), and then shake hands again. Note that not everyone in Botswana makes eye contact when communicating with strangers. In particular, it is customary for young women and girls, particularly in rural areas, to not make eye contact when speaking to strangers.

Botswana Time
Like much of the rest of the world people are not nearly as time driven as in the United States. So do not expect meetings, cabs, etc. to be precisely on time. Just relax and enjoy the saner lifestyle. But know too, if you are going for a short amount of time and have very specific but time dependent goals, you are less likely to be successful in meeting them. The Botswana time zone is CAT (Central Africa Time) and is either six (daylight savings) or seven hours ahead of Philadelphia/EST.

Medical Licensure
No physician can work in PMH without registering first with the Botswana Health
Professions Council (BHPC). Registrations are processed only on Mondays and Tuesdays. If you arrive the day after the registrations are processed, you will have to wait another week before you can obtain permission to work in the hospital.

**LGBT**

Officially, both female and male same-sex sexual acts are illegal in Botswana but prosecution is rare. Same sex couples have no legal recognition. Certainly there is a lesbian and gay community in Botswana, but in general homosexuality is not publicly accepted. Note that it is not uncommon for heterosexual men in Botswana to hold hands publicly, so do not assume that two men who are holding hands are a romantic couple.

**Holiday**

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<th>English name</th>
<th>Local name</th>
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<td>1 January</td>
<td>New Year’s Day</td>
<td>Ngwaga o mosha</td>
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<td>2 January</td>
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<tr>
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The first Monday after Christmas is also a Public Holiday.

**Language**

In general, foreigners are not expected to know any Setswana, and therefore, even a few phrases of Setswana will be very well received and appreciated. Speaking Setswana will show your desire to learn about Botswana, and it will definitely help you in the hospital, as many patients only speak Setswana.
GETTING READY

Preliminary
Download the “check-list” from the AAD website (also now included at the beginning of this Guide). This will cover all of the things that you will need to do to get ready for the trip.

Travel to Botswana:
If you are going as a recipient of the AAD Resident’s International Grant, the travel arrangements will be made through the American Academy of Dermatology Travel Agency. Connie Tegeler (CTegeler@aad.org, International Affairs Specialist with the AAD) will provide the names of the successful recipients of the International Grant to the travel agency through the AAD Meetings Department (along with the budget code and window of the travel period). She will also provide the travel agency contact information to the recipients, and then the recipient and agency will decide on the exact dates/times.

Ultimately you need to get to Johannesburg. From there both South African Airlines (SAA) and Air Botswana (BA) have flights to Gaborone. SAA is the main carrier that flies from the U.S. to Southern Africa. SAA flies from Washington DC or JFK directly to Johannesburg (sometimes stopping in Senegal for an hour to refuel). Delta has regular flights from Atlanta to Jo’berg. From Jo’burg you will take an hour flight to Gaborone. Flights from the United States operate at least 4/5 weekdays, but some flights stop in Cape Town and others do not (and agents do not always tell you this up front!), and it is best to avoid another stop and another couple hours of flight time if you can so check with your agent about this prior to making your reservation. Also the Cape Town flights tend to cost more. A variety of other airlines fly through Europe (Lufthansa, Air France, Northwest, British Air, Virgin Atlantic); most involve a significant layover. It is one interesting way to break up a fairly excruciating flight, but it makes the trip longer nonetheless.

Arrival at Johannesburg airport: Follow the signs for international transfers. Johannesburg airport staff standing at the entrance to international transfers may ask for your baggage claim forms (as proof that your bags are to be checked all the way to Gabarone). If you do not have your boarding pass, there is a counter with the airline name on a small TV above the attendant. They will need your passport, itinerary and baggage claim forms. Once you get your boarding pass you will need to go through security. The gates are going to be down a large escalator and a bus will take you to your plane on the tarmac.

You should leave AT LEAST a two hour layover in Jo’burg to improve the odds of having your luggage arrive when you do. Also, a TSA approved luggage lock is well worth the investment to prevent pillaging of your luggage during layovers in Africa.

You must email Boipelo Dibotelob@botswana-upenn.co.bw with your itinerary at least two months prior to traveling since there is NO PUBLIC TRANSPORTATION from the airport into Gabs. Copy this email to Carrie Kovarik (carrie.kovarik@uphs.upenn.edu).

Arrival at Botswana airport: A Botswana airlines attendant will check your passport. You will then proceed to the back of the room where there are customs forms to fill out. Be prepared to
answer questions at the passport control counter about how you know Boipelo Dibotelo and the purpose for your trip. You should check “holiday” in the reason for arriving box to avoid problems (since you are not supposed to work in Botswana and though we are not paid it has occasionally been difficult to explain that we are working at a hospital, but not really working to an immigration official). The address (you will also need this on the form) is Pilane Court, Plot 154/155, Ext 9, Gaborone.

Once your passport is stamped proceed to the baggage claim area and retrieve your bags. Once you have your bags there will be a counter for ‘items to claim’ and ‘no items to claim’. If you have gifts they will ask you for a receipt. If you have gifts worth over a certain amount then you may have to pay VAT (taxes). Your bags may or may not be searched at this time.

After you clear customs there will be a Botswana-UPenn affiliated driver waiting for you holding up a UPENN-Botswana partnership sign (likely Khunong – Cell 71481155, or David—Cell 74146934). There is no charge for the transportation and a tip is not expected; however, if you feel your service is beyond expections, you can leave a tip if you like. There is a a currency exchange office at the airport, but ATM's are generally the cheapest way to get Pula, and the driver can take you to a reliable one in the city on the way from the airport; you can withdraw up to 4000 Pula. Please call/text Boipelo Dibotelo for any delays you encounter – 00 267 73784486. If you do get stuck at the airport in Gabs, try to call Khunong or David (phone numbers just above), or take a van to the Gaborone Sun Hotel, which is near the flats, and try to get in touch with Boipelo, Khunong, or David from there. Be sure to get your key to the flat from the BUP driver as the custom has become to give the key to him when he drops the leaving resident off at the airport.

**Medical Evacuation Insurance**

Recipients will be required to purchase medical evacuation insurance, such as International SOS ($130 per trip) or Medjet Assist ($235 per year if bought through the AAD). This will be paid by you out of the AAD stipend. If your medical school provides medical evacuation insurance free of charge to students (ie Penn), you do not need to purchase this; however, you must show proof of coverage to the AAD.

**Visa**

If you are traveling on a U.S. passport, you do not need a visa if you are staying in Botswana for 90 days or less in any one revolving year. If you are traveling on a non-U.S. Passport, you may need a visa. Guidelines and visa application are available on the Embassy of the Republic of Botswana Website: [http://www.botswanaembassy.org/](http://www.botswanaembassy.org/).

**Immunizations, etc**

You should be immunized against hepatitis A, hepatitis B, and typhoid (IM or oral). If you plan to travel to Chobe Game Reserve in Kasane or any other place up north, you will need to bring malaria prophylaxis. Gaborone and Francistown are free of malaria. You should have a tuberculin skin test before and 6 – 8 weeks after the trip. The water and food are safe to consume in Gabs and Francistown.
What to Pack
Dress in Gaborone is “westernized.” Pretty much anything decent is acceptable for men or women. Remember if you are traveling during the US summer (Botswana winter) the nights can get quite cold. You will want to bring warm layers (fleece, sweater, jammies, etc.). Note that rooms in the flats are generally shared so you are likely to have both roommates and flatmates. You may wish to pack a robe or sleepwear. If you are working in the Hospital, your clothes may be casual but neat. Some of the male physicians do wear a tie, most do not. Women wear slacks or skirts. You do not need a white coat. Many people deliberately pack clothes that they plan on leaving behind for the maids or for the orphanages. This is much appreciated and gives you more room to bring back purchased items. If you enjoy a night on the town, note that the club scene is fairly hopping in Gaborone where people sport the latest trends (so if you only have a fleece and khakis, you may feel underdressed). The maids do laundry daily so there is no need to overpack clothes, though the turnaround time can be 3-4 days.

Do not despair if you forget a crucial item; nearly everything you may need can be found in Gaborone. (Women should note that sanitary napkins and tampons are easily purchased in Gaborone.) Don’t overpack! Note too that you may want to bring home gifts so you might either plan on leaving much of what you pack in country (easy to do if you help courier over supplies or donations in your luggage) or bring an empty duffle bag that you can fill for your return.

Electrical Adaptor
Remember the voltage in Botswana is 220 and not 110. Most elaborate equipment (computers, digital cameras, etc.) have internal converters that will work with both voltages, but small appliances like hair dryers and irons will not work in Botswana unless they can be switched to 220. Generally, appliances that can be switched, literally have a switch on the handle. The plug shape is different in Botswana as well. (They actually use two, but the most common is type G. South Africa also uses several, including type M. Type G is can be found in most universal adaptors whereas type M usually must be bought as a stand-alone device.) A number of plug adapters are available for use at the flats or you can purchase one from the Computer Connection or another store before departing.

Other things to bring: flashlight or camping headlamp, magnifier or Dermlight, small notebook to write down patient information, digital camera with sufficient memory card space (1 or 2GB), USB minidrive, CDs for burning photos and data. A laptop is extremely helpful to have. Also helpful: energy bars, eyedrops/nasal spray because of the dust, swimsuit and flipflops for the pool at the apartment complex if in the hot season, hat and sunscreen of course. Consider bringing your own laptop with Skype downloaded on it. For entertainment: iPod, DVDs. Please note that non-latex gloves are not available within the hospital, so please be sure to bring a large supply for yourself should you have an allergy.

Checked Luggage
DO NOT PACK ANYTHING THAT YOU ABSOLUTELY CANNOT DO WITHOUT OR THAT IS OF VALUE (MEDICATIONS, CAMERA, ETC.) IN YOUR CHECKED LUGGAGE. There is a high likelihood of bags getting delayed/lost or items being stolen from suitcases when transferring through South Africa. It would also be wise to bring at least one change of clothes on-board with you, in the likelihood that your baggage may arrive days after you do. Make sure that these items are in your carry-on bag. If your carry-on bag locks, that is...
even better since this can be taken from you during the Johannesburg-Gaborone leg of your journey on the small plane and given back to you when you disembark. Make an inventory of items in checked baggage to aid in claims processing if theft does occur. You can use the luggage plastic wrapping service in Gaborone (which is quite effective) on your return trip to help prevent your luggage from being opened on your way home. Purchase a TSA approved lock before you leave home to put on your checked luggage. Travelers are strongly encouraged to purchase travel insurance before going to Botswana.

**STAYING CONNECTED**

So you’ve arrived safely in Gaborone, been dropped off at Pilane Court, and you’ve settled into your room. The next thing you’re going to want to do is contact home to let them know you’ve arrived safely. Unless you’ve activated you’re home phone to work abroad, you’re going to have to depend on the communication system in Botswana. This section will help you with staying connected.

*Cellular Phones*
Cellular service in Botswana is, for the most part, very affordable and reliable. You will be provided one of the two Derm phones during your stay here. If you’re lucky, the resident you are overlapping with will be at the flats when you arrive and you can get the phone immediately.

There are two major cellular providers in Botswana, Orange and Mascom. Prepaid airtime can be purchased for either network easily just about anywhere.

Botswana’s country code is +267. To dial the US you must dial the US’s country code ("001") + the number.

There are two cell phones that are available for derm rotators. The numbers are:
Derm Phone 1 – (+267)72731961
Derm Phone 2 – (+267)72659078

They are both on the Orange network. Calls and texts from your phone cost Pula, calls and texts in do not. To recharge your phone, visit a reseller of airtime. You can find them literally anywhere there is foot traffic (check with anyone selling drinks on the sidewalk, etc). You buy a small scratch card (make sure it is for the company that provided your sim card, likely Orange) of whatever value you desire and then scratch off a panel to reveal a code. Follow instructions on the card to enter the code and add the airtime to your SIM card: scratch off the code on the card, enter *155*(14 digit code)#, press send, and the money will be added to your sim card. It is a great system. To check how much money you have left on the phone, press *155# and send. Some vendors can now send minutes directly to your phone without a scratch code—you will get a text instantly from Orange confirming the transaction.
You can bring your own cell phone from the US to use, but you are still responsible for carrying the derm phones to receive consults and other clinical inquiries on M-F 8-5pm. These phones can be used for personal use, but if you wish to have your home phone in addition, make sure that you will be able to substitute a Botswana SIM card with your US cell phone vendor. Generally this means having your phone “unlocked.” If you can do this, then you only need to purchase a Botswana SIM card when you arrive that will make your phone function in Botswana.

Phone calls during the day are about P1/minute, but text messages can be sent for about 25 thebe. If you do not have a phone but need to make a phone call, you can find a phone around town but pay phones, as well as some land lines, will only call land lines because calls to cell phones are more expensive. Remember the land lines in the flats are only for local calls. It will call both cell phones and other land lines.

AFTER YOU USE THE DERM PHONE, PLEASE MAKE SURE TO PASS IT TO THE NEXT PERSON WITH MINUTES LOADED. Passing off a phone with no minutes is poor form.

Internet

WiFi at the flats:
There is WiFi available, some of the time, at the flats. It is usually working during the week but almost always down over the weekends. This is a mystery to everyone.

SSID: upenn (case-sensitive)
Security: WEP
Password: 1A83CD91D2 (case-sensitive)

The SSID is not broadcast so you must enter the network manually. If that doesn’t work, try the open network “linksys” if it is available.

Many residents choose to bring headsets for Skype/GoogleVideoChat— They work well at times, but the connection will likely be very spotty if multiple people try to use these programs at the same time.

Cellular Modem
There is also a USB cellular modem or “dongle” that is available for the derm residents. You plug it in to the USB port of your computer and it uses cellular data. You recharge the modem similarly to cell phones, with internet costing P10 for 1 hour of data usage. It’s considered 2.5G and is quite fast when you have a good connection.

To use the modem:
1. Plug the modem into an available USB port on your computer
2. Install the necessary software (Mac OSX and Windows compatible)
3. When prompted, enter the PIN number “4297” (This will stay the same unless someone purchases a new SIM card for the modem)
4. Wait until the connection status indicates WCDMA and then hit connect.

To replenish internet time for the modem:

Updated October 2013
1. Buy Mascom Airtime in (at least) increments of P10.
2. Remove the SIM card from the modem (slide the white cover back)
3. Put the SIM card in your phone.
4. Add airtime to SIM card in phone through the usual manner.
5. Dial *141# and follow instructions to “Buy MyTime”. It will deduct from the airtime that you have just added. (To check your airtime balance dial 102 and hit send. A voice recording will tell you your remaining airtime. To check remaining internet time (MyTime) dial *141# and follow the prompts.)

Make sure the modem indicates it has a WCDMA connection and not EDGE before hitting “connect” otherwise you will get very slow speeds.

Internet Cafés
There are three internet cafés nearby in main mall and all should be open when you arrive. They are cheap and have much faster and reliable internet than you can get at the flats.

1. “Internet Café” upstairs in Tswana House next to the Cresta President Hotel in Main Mall. I recommend this one. It is a little bit further away but run by a friendly staff. The internet is fast and the hours are very good. All three of these offer other services such as faxing, copying, and top-up minutes for cell phones.

   Tele. (+267)3190730

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<td>15 Minutes</td>
<td>P5.00</td>
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<td>30 Minutes</td>
<td>P8.00</td>
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<td>1 Hour</td>
<td>P10 (15 minutes free)</td>
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<td>2 Hours</td>
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<td>4 Hours</td>
<td>P40 (1.5 hours free)</td>
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<tr>
<td>6 Hours</td>
<td>P60 (2.5 hours free)</td>
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   Hours: Mon-Fri 0700 – 1900

   Sat 0800 – 1700

   Sun 1000 – 1700

   Walk-in purchases of time expire within 48 hours, but if you find yourself coming here often you can set up an account which does not expire.

2. “Internet Café” downstairs in Fashion Tower next to Spar in Main Mall. The closest with the cheapest rates, but the hours aren’t very good and it’s in the basement.

   Tele. (+267)3972054

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<td>60 Minutes</td>
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   Hours: Mon-Fri 0745 – 1800

   Sat 0830 – 1600

   Sun Closed

3. Bizy Networks Internet Café Unit 24 in Embassy Chambers above the Hungry Lion in Main Mall. Slightly longer hours and good rates but is small and somewhat difficult to find.

   Tele. (+267)3916667

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<tr>
<th>Rates:</th>
<th>Mon-Fri</th>
<th>Sat-Sun</th>
<th>0745 – 1800</th>
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<td>30 Minutes</td>
<td>P6.00</td>
<td>0700 – 1600</td>
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<td>60 Minutes</td>
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<tr>
<td>2 Hours</td>
<td>P16 (+ 10 minutes free)</td>
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<td>3 Hours</td>
<td>P25 (+15 minutes free)</td>
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**WORKING IN THE HOSPITALS**

**YOU WILL WORK HARD IN THE HOSPITAL! THIS IS NOT A VACATION!**

*Global Health*

Before traveling to Botswana for a clinical rotation, we highly recommend that you review the global health training material from Unite for Sight: [http://www.uniteforsight.org/global-health-university/](http://www.uniteforsight.org/global-health-university/). In particular, the online (free!) courses on Global Health History, Cultural Competency, Volunteer Ethics and Professionalism, International Research, and most applicably the general Global Health course, are very useful.

In spite of good intentions, international health work that does not follow global health best practice principles can be wasteful, unethical, and harmful. Worst practices are serious public health concerns that create new and oftentimes more substantial barriers to patient care, thereby reinforcing and furthering health disparities and the cycle of poverty. Furthermore, these worst practices most often violate concepts of social justice and human rights. Due to high costs, schedule constraints and complicated logistics, many global health endeavors take the form of short term medical missions, which undermine the local health care system, cause significant harm, and reinforce poverty. These missions are often labeled as medical tourism or "volunteer vacations" – “short-term overseas work in poor countries by clinical people from rich countries” – and can be seen as:

- **Self-serving**: providing value for visitors without benefiting the local community
- **Raising unmet expectations**: sending volunteers who do not have appropriate language or medical training or accountability
- **Ineffective**: providing temporary, short-term therapies that fail to address root causes
- **Imposing burdens on local health facilities**: providing culturally irrelevant or disparaging care and leaving behind medical waste
- **Inappropriate**: failing to follow current standards of healthcare delivery (continuity, access) or public health programs (equity sustainability)
About Princess Marina Hospital (PMH)

There are two parallel health systems in Botswana - the public system and private system. Each system has their own set of hospitals, clinics, and physicians. Care in the public sector is completely free for Batswana, including laboratory testing, hospitalization and medications. The University of Pennsylvania has been working in the public sector, and we have been based in Princess Marina Hospital (PMH) in Gaborone since January 2004. Penn's, not Dermatology's, second hospital site at Nyangabgwe Hospital (NGWH) in Francistown has been open since January 2006. These are the two large government referral hospitals in Botswana. There is also a very important third “health system” -- that of the traditional healer. Most Batswana seek some of their care from traditional healers in addition to the public system. Much of the renal failure can likely be attributed to traditional medications. PMH is the main tertiary care hospital and referral hospital for southern Botswana. NGWH is the main referral hospital in Northern Botswana. Both are located near the center of their respective towns. Until recently there had been no medical school in Botswana, therefore, around 90% of the physicians in the hospitals are from outside Botswana (just like us). As a result most physicians do not speak Setswana, and physicians rely on the nurses for translation (just like us).

The medical school started its first pre-med class in August 2008. Prior to this all Batswana medical students spent their clinical years at hospitals outside Botswana. Botswana started its own internship program in January 2007 and the first residencies (Peds and Medicine) started in January 2010. UPenn is heavily involved in helping in training so you will have the privilege of working in this important project. ALL medicine and pediatrics residents, as well as University of Botswana medical students, rotate through the dermatology clinic, and you are responsible for helping to teach them basic dermatology they can use in Botswana. There will likely be a fair amount of switching of clinical responsibilities depending on the teaching needs and you will be relied upon to be an important part in the teaching program – both directly and as modeling an academic program. There are often other medical students on service, but they are primarily from Australia, South Africa and Ireland. Because there is a nursing school at the University of Botswana, most nurses are Batswana; most others are from other countries in Africa, China, and Cuba.

Harvard and Baylor are also working at PMH

The Botswana–Harvard School of Public Health AIDS Initiative was founded in 1996. They actively work on research studies including mother-to-child transmission; mutation rates for Clade C HIV and other biological features of Clade C Virus; Clade C vaccine studies; and several drug studies. They are a branch of the Harvard AIDS Institute, and are located in the multimillion dollar research laboratory at PMH. They have been very productive in research. They are not involved in inpatient care or medical education. Important players include Max Essex, DVM, PhD (Director of Harvard AIDS Institute); Richard Marlink, MD (Director of the Botswana-Harvard AIDS Partnership); Hermann Bussman, MD and William Wester, MD. They have no inpatient or teaching presence.

Baylor College of Medicine has been a very important provider of outpatient pediatric HIV care and medical education at PMH. Their multimillion dollar research and clinical facility, the Botswana-Baylor Children's Clinical Center of Excellence, opened at PMH in the spring of 2003. They have added a number of physicians in the past few years and are now contributing to the inpatient pediatric care and teaching. The Harvard and Baylor programs are large, well funded,
and well organized. We are not in competition. In fact, we all complement each other since we work in different areas. There are no other foreign medical schools working at NGWH in Francistown. CHOP/UPenn is the only “show in town”.

**Credentialing for Residents and Faculty Working in the Clinical Setting**

Anyone (not including students) who plans to practice medicine in Botswana MUST submit documentation and complete an application for exemption from registration with the Botswana Health Professions Council (BHPC). There are a number of documents required to obtain the registration. Heather Calvert has the full list. Registrations are given in-person on Wednesdays. You should plan to arrive by Tuesday morning so your paperwork can be turned in, and you can receive the approval the following day and then begin work on your first Thursday in country. No one may work until the registration is granted and so you should time your arrival carefully to make the most use of your time.

**Set-up of Medical Wards**

The following is a description of the wards at Princess Marina. As part of your inpatient consult service, you will be working in the inpatient medical wards at the hospital. There are two medical wards - male and female, two surgical wards – male and female, one isolation ward, one pediatric ward, an ICU and two orthopedic wards – male and female. On each of the medical wards you will find seven main “cubicles” of patients. Each cubicle contains approximately ten tightly-packed patients, most on hospital beds but some on the floor. The most tenuous patients are in Cubicle 3 (“high dependency cubicle”), right in front of the nurses’ station. Medicine generally runs about 20 beds over the maximum (mattresses on the floors).

There are six teams, called “firms” on the medical wards. Please note that they are in the process of changing the structure of the teams. In November 2010, the teams were designated A and B teams, and they take 24 hour call every 6th night. Some of the firms are designated as part of the teaching program and each has at least one PMH intern or Medical Officer (MO). A PMH MO is a physician who has graduated from medical school, but s/he has not done a residency. Therefore, an MO may be a new graduate or may have been practicing for years. Each firm is headed by an attending, called a “specialist.” A “specialist” is someone who has completed a residency, and in addition, they often have an area of focus. Penn has full-time clinical specialists at PMH. At any given time some are working on the wards and clinics of PMH and some are doing outreach training in a number of the surrounding referral hospitals. We also have a specialist working full-time on tuberculosis. Penn medical students and residents are fully integrated into the firms at PMH. MOs and interns are the primary caretakers of the patients, and specialists supervise them with morning rounds three times a week and afternoon rounds on the other two days. (The specialists have morning clinic twice a week.) MOs, interns, and you round on patients every day (except the weekends, unless on call), and perform all corresponding blood tests, invasive procedures, admissions, and discharges.

**Access to Educational Material**

In the flats there is Internet access, and several e-Textbooks are available on our Google Drive account (see below). In the flats are a slightly outdated Pharmacopeia, Sanford guide to HIV-related ID, and most recently a Bologna 1st edition and a 7th edition DIGM, as well as a Fitz atlas. PMH also has a medical library that has many outdated textbooks. We have been regularly contributing texts to the library to help upgrade the resource. Dr. Kayembe has an
updated Lever and Rapini dermatopathology atlas in their offices. However, these are their personal texts and you should ask to be able to consult them.

Each nursing station has two computers with Internet access, although finding someone who has an access code is a challenge. Your best bet for reliable Internet access on campus is the Baylor Visiting Scholars’ Room on the second floor of the Baylor outpatient building. The computer access code is “visitor” and the password is “botswana”. If you need help obtaining access, introduce yourself to Nicholas in Rm 207. There is also a BUP office with Internet access in the dental clinic building on the first floor (turn left after entering the building).

Adjusting
It will take days to adjust to the “foreign” diagnoses, testing available, formulary, charting, hospital geography, language, personnel, etc. One of the most difficult things to adjust to is learning to prioritize what to work up and what to leave. Coming from a culture in the developed world where virtually no abnormality is ignored (even if it should be) this takes some time. So…prepare for a difficult orientation (we will take care of you), and be open-minded (crucial). Be prepared for the frustration of dealing with a new system, inefficiencies, lack of accountability, items being “out of stock”, inability to get the lab tests you are accustomed to getting, and deaths that would not occur in the US. Consultants from the other departments can be particularly problematic both by ability and lack of interest. All of this is superimposed on jet lag. Most people require about two weeks to get past the frustrations and inefficiencies that are part of our work in Botswana. Changes are being made by evolution not revolution. Certainly by the middle of your rotation you will feel in pretty good control and by the end regret that you are leaving.
DAILY HOSPITAL/CLINIC EXPERIENCE AND SCHEDULE
The dermatology residents are responsible for running the outpatient dermatology clinics in conjunction with a Cuban Dermatologist (he is supposed to arrive for a 2 year stint at any moment at the time of this writing). Clinics run Tuesday, Wednesday, and Friday from approximately 8:30 AM to 1 PM, during which you will see typically 30-45 patients between the 2 rooms. Only see as many patients as you feel comfortable. The nurse (called a sister) will assist with and translating while in clinic and are very helpful.

Schedule Overview (Mon, Tue, Wed, Fri)
- Medicine intake rounds/morning report M, T, W, F at 7:30 in the male medical ward conference room. It is important to attend this daily (except Thursdays during outreach), in order be available to receive any consults on inpatients that may have been admitted the night before. Introduce yourself early in the rotation and make sure to let the residents and other physicians know you are available for consultation on the adult and pediatric wards.
- Medicine and pediatric inpatient consults M-F, 8-5 (non-urgent Thu consults can be delayed until Fri) – these will typically come to you after intake rounds if there is a newly admitted patient with a rash or by cell phone/word of mouth. The dermatology residents MUST ALWAYS CARRY THE DERM CONSULT PHONES DURING BUSINESS HOURS. The numbers are 72731961 and 72659078.
- Dermatology clinic T, W, F mornings: You are responsible for this clinic and it will not run appropriately without you there. Clinic typically starts at 8:30-9AM, after intake rounds.
  - Tuesday clinics occur at the IDCC (HIV clinic).
  - Wednesday and Friday clinics are in the main outpatient medical area.
- Outreach clinics on Thursdays: There is an outreach schedule that you will receive. See below for details

The Patient log
A patient log of all patients seen (demographics, where they were seen, and the presumed diagnosis, f/u date, etc) must be kept, as a requirement of the AAD in order to keep the program, and your trip, funded. When you start clinic, get 2 blank patient log pages. The nurses can get them for you, or you can print them out from the computer in clinic room #4 at PMH (Start -> My Documents -> Statistics form Dr’s, FNP…..New). Place a carbon copy sheet between the two blank logs (again, a nurse should be able to give you one) and staple it all together. Fill it out as you see each patient. At the end of clinic, give 1 copy to the nurse, and take 1 home with you. That night, enter the patients into the patient log on your computer.

Outpatient Clinic
The dermatology residents are responsible for running the outpatient dermatology clinics in conjunction the Cuban dermatologist. Outpatient clinic runs in the morning on Tue (at the IDCC clinic), Wed and Fri (in the main medical outpatient area). It starts at around 8:30-9 am. (Mondays are for inpatient consults and catching up on admin work, esp pathology results)

When you arrive in clinic, you might need to push the nurses a bit to get things started. You will generally be working in room #4, and the Cuban dermatologist will be in room #5.
To start clinic you will need:
- Your 12 page yearly calendar
- 2 blank patient logs, stapled with a carbon copy paper between them
- A nurse, or perhaps a UB med student or resident who can translate and help with the electronic medical record system.
- The biopsy book
- Your biopsy bag/supplies
- The dermatology consult phones
- A bottle of water for you (also bring lunch for after clinic)

Since there may be consults to see in the afternoon, it is optimal to see everyone you can in the morning even if you go past 1PM. The nurse may not be pleased to delay her lunch by ½ hour but it makes more sense on most days. Inpatient consults can be sent down to clinic if they are ambulatory. This saves time since the ward is not very close to the clinic.

Room 4 has a small locked cabinet with a microscope that is currently in 2 pieces, but which can literally be held together to read slides for Tzanck's and KOHs. That cabinet is also where we keep 2 sterilizable biopsy kits, and dermatology teaching cards. The derm resident keeps this key. There is also a cabinet in room 5, which might have another microscope and a hyfrecator (the key had been held by the previous Cuban dermatologist, and has apparently not been seen since May 2013).

Bring your biopsy bag to clinic with disposable biopsy kits and anything you have that you might need for procedures. Supplies are kept a closet in flat 2 at Pilane court (the derm resident keeps this key) As of Jan 2013, this closet has just been organized and inventoried. Please do your best to keep it organized, and let the incoming resident know what supplies are needed ~2 weeks before he/she is scheduled to arrive. In general, disposable complete punch kits and kenalog are always needed. Gelfoam is often very helpful as well, as many small punches do not have to be sutured. Other supplies wax and wane. Formalin tends to leak on the flights, and is generally available from the histology lab. Bottles are usually available in clinic. There are multiple biopsy bags in the closet-- take your pick.

The nurses are helpful if directed. Do not expect them to set up your biopsy tools. They will keep a log of patients during clinic AND also ask for a copy of your log at the end, which is why you need to carbon copy your log. They are extremely helpful with filling out forms and keeping things moving. Over the years, they really have learned a lot of dermatology. 2 nurses in particular have been there for years and have been very helpful to the dermatology residents: Beauty and Bonnie.

Patient encounters:
When patients come in the room, they will give you the number they were given at registration that morning, and they should be more or less in order from 1 through the end (20, 30, 40.....). They will also give you their medical record, on which you will write the note. Unlike those in the USA notes at Marina are written entirely for communication and patient care. We do not have to “buff” the charts with medically extraneous information that is required for billing; so make the notes short, pertinent, and of course legible. Exams are generally focused.
Prescriptions are done right in the Assessment/Plan portion of the note. Be sure to include all instructions, including the dispense amount and # of refills (generally written as # of months out of twelve (e.g. 3/12 for a 3 month supply, 5/52 for 5 weeks supply....). The pharmacy is great at compounding agents. Some medications need a special order form, and the nurses should help to identify those when you prescribe them. (Common ones are tretinoin, aldara, clobetasol-- they are usually not available). A listing of the available dermatologic drugs is included in this manual. Print that appendix and have it with you in clinic.

Booking/Appointments
The patients all tend to show up first thing in the morning. When patients register, they are given a number on a first come-first serve basis. Some will have appointment times, and they should be given priority, but this is often out of our hands, and we generally recommend not promising anyone a specific time when you book their next appointment. Appointments are made by hand on a calendar that you will carry in clinic (12 monthly pages). When you book a return visit, put a mark (generally an “o”) on the box for that day. If you receive a call from a referring physician asking you to book a patient (or if the triage nurse brings you a chart of a patient who needs to be booked into derm clinic), mark that as well (generally with an "N" for "new"). At the end of the clinic, collect the booking dates that the Cuban Dermatologist offered to patients, and enter those into the calendar. This helps you keep track of how busy a given day in the future is, so you can keep the schedule approximately even, without overloading a day for a future resident.

The calendar will only be partially accurate. Prisoners are generally allowed to show up and skip the line. If there are too many patients to see, you may choose to have some of those without bookings come back for another scheduled day. You MUST tell them first thing in the morning – they do not mind coming back another day if they are told early, but they will mind if they wait all morning and then are told to come back another day once they have been waiting for hours.

At the time of this writing (October 2013), the clinic is oversubscribed. Remember that you can offer PRN f/u for patients with resolved issues, or refer patients back to medicine/pediatrics clinic if their management should be simple after the visit with you. Doing so, along with spacing out follow-up where possible, will ease the backlog of patients over time.

Referrals and Colleagues
The IDCC is the outpatient adult HIV clinic on the grounds of Princess Marina Hospital. This is a very high volume clinic with lots of skin disease. Since these are outpatients, you should see consults from this clinic as soon as possible so that the patients do not have to wait too long for your services. These consults may come as regular bookings. You also may receive phone calls from the physicians asking to see patients more urgently.

The Baylor International Pediatric AIDS Initiative (BIPAI) runs the outpatient pediatric HIV clinics in the Center of Excellence (COE), which is located on the campus of Princess Marina. Dr. Mogomotsi (Mogo) Matshaba is the Clinical Director, and it is very important that you introduce yourself to him and to the other pediatricians at the center. These physicians run both the inpatient and outpatient pediatric services at Princess Marina, and they also will call you for inpatient and outpatient consults.
Pathology, Microbiology, and Other Tests

Doing Biopsies/Pathology

Biopsies can be done in clinic, and there are sterilized kits that are dedicated for use. If the sterilization unit re-incorporates these instruments back into the general surgical pool, our kits will be lost and we will have to convince them to make new ones for us. Therefore, please take personal responsibility for them, by bringing them to the sterilization room (see map) after clinic and letting the person who accepts them know that you will be back the next morning to pick them up. Get to know them and they will be very helpful. Maevis is the supervisor, and 2 other helpful people are Sheila and Phillip. The kits are generally kept in the small locked cabinet in room 4 of the medicine/dermatology clinic. The key for this cabinet, as well as for the derm supply closet, is passed down from 1 dermatology resident to the next.

BE CAREFUL WITH SHARPS AND FLUIDS. Wear goggles, get sharps into the container immediately, and control the environment of the room. You will be given instructions by Boipelo at orientation about what to do in case of an exposure, and you will have a dose of Truvada/ Kaletra (provided by Boipelo at orientation), with you at all times, just in case. See below for details on what to do-- we will take care of you.

Try to limit biopsies to cases where histology will affect management, and where a therapeutic trial is not a good option. In general, the oncologists need tissue confirmation of Kaposi’s sarcoma before they will start chemo for widespread disease. Also, special stains including PAS have a tendency to get lost and delay results significantly-- try to avoid biopsies meant to differentiate between tinea and eczema.

The biopsies should be taken, along with an acquisition form (marked Urgent DERMATOLOGY), to the National Lab across the street for processing. Please note that Dr. Kayembe, the main pathologist, appreciates very complete descriptions and differential diagnoses to accompany each specimen, and will do what he can to ensure timely processing.

You are responsible for following up on all biopsy results of biopsies taken by the dermatology residents (including the ones who came before you) and recording the results in the biopsy log. As soon as you do a biopsy, enter the data that you can into the biopsy book. Then, after clinic, take the specimens across Chuma/Notwane street to the National lab (2nd floor, turn right, enter the histology room on the right just after Dr Kayembe's office and ask the person at the computer (Audrey or Phillip) immediately inside the door to log it in). Tell the histology technicians it is an important specimen, and you would like to see it within a week with Dr. Kayembe. More than likely, it will then take at least a week to see the specimen. She will give you a sticker with a PS (surg path) number on it-- stick this into the biopsy book. When you get home, enter all the data from the biopsy book into the backup GoogleDrive biopsy log (see below for instructions) Please keep record of the date that the patient is to follow up in clinic, and then the date when biopsy results were actually discussed with patient.

Dermatology Supplies in Clinic and the Wards

Procedures that may need to be performed on consult patients include punch or shave biopsies, scabies preps, Tzanck smears, KOH preparations, and fungal and bacterial cultures. You can use the microscopes in the derm clinics, or there may be one in the male medical ward, or in the microbiology lab.

Updated October 2013
Dermatology supplies can be stored in flats between rotations. There you will find 4.0/5.0 nylon suture, disposable scalpels, 3/4/5 mm punch biopsies, Band-Aids, gauze, tape, alcohol wipes, KOH, Giemsa, slides and coverslips, lidocaine, aluminum chloride, an assortment of needles, and N-95 masks. It is always helpful to bring new supplies, and please contact the next dermatology resident to help keep the supplies. Make sure to carry EVERYTHING you may need with you in the biopsy bag at all times at the hospital. It is very difficult to find anything on the wards, so it is important to have everything from alcohol wipes to tape and slides with you.

Generally/sometimes obtainable from the hospital are: cotton swabs, alcohol swabs, purple-topped specimen bottles, 10% formalin, distilled sterile water, slides and cover slips (microbio), culture swabs and bacterial/fungal culture medium (microbio), KOH (microbio), lidocaine (procedure rooms), syringes/needles, and more N-95 masks (on the ward or in IDCC clinic).

If a biopsy is needed on an inpatient, please discuss this first with the primary physician before completing the procedure. Once it is decided that a biopsy will be beneficial, you need to gather all of the supplies that you will need in order to complete the biopsy. If this is a consult at Princess Marina, it is best to use the biopsy kits that can be sterilized. If a biopsy kit is lost, look for “disposable” Laceration Tray kits which can sometimes be found on the wards/clinics. These contain the necessary tools and can be reused as biopsy kits, and/or you may scavenge the necessary tools from the sterilization facility or wards. Remember to record all biopsies in the biopsy book.

Getting biopsy results
When dermatology specimens are ready to be read, they are supposed to be placed in a cardboard box in the back histology room. Walk into the room where you turned in the specimens, go through a door at the back of the room, and look on top of the fridge immediately on the left as you walk through the door for the box with derm slides. If you have trouble, Edson, a histology supervisor, sits in this room. Take the slides and review them yourself if there is a free scope (generally there is one in the room just across the hall-- Edwin and KK both sit in that room and are very nice and helpful-- they can usually set you up). Write your thoughts on the back of the form (and be sure to date what you write).

Then bring the slides to Dr Kayembe and ask if he has time to read them then or at another time, with you. Dr. Kayembe (cell (+267) 71849217) is currently the main general pathologist in the National Laboratory (2nd floor). He knows we will be having rotating dermatology residents who will be doing biopsies. Please be respectful of his time, as he is very overworked and is helping us a lot with our patients. Even if a biopsy is "assigned" to one of the other pathologists (Dr Feng and Dr Chowdry), they generally give the slide to Dr Kayembe. If you and Dr Kayembe are comfortable with your read, enter it into the biopsy book (and into the Excel file that evening). Dr. Kayembe will enter the result into the electronic medical record system, IPMS.

If Dr Kayembe is not comfortable with the read, he will ask you to show it to Carrie, which means load it onto the teledermpath microscope in his office (see Appendix for detailed instructions). After loading a slide onto the scope, put the paper requisition on top of the scope, record the specimen number for your own records, and when you get home, send an email to
Carrie and Dr Kayembe (and ideally, the resident who did the biopsy if it was not you) with the well # (1-4), specimen number, date, clinical history, and clinical photos if available. Carrie will email you a read with histology photos when she gets a chance (usually within 1-2 days). Please see below for instructions on using our GoogleDrive account to facilitate this exchange of information. Record the result in the book and excel file, and when you get back to the National Lab, enter it into IPMS under Carrie's username (see Appendix). Remember to keep a log of which specimens need to be entered into IPMS so that you do not lose track. If there are more slides for review by Carrie than fit on the scope, place the excess slides and acquisition forms in a slide box to the left of the scope. See appendix for specific microscope and troubleshooting instructions.

Finally, specimens have a tendency to get severely delayed or lost. The pathology team is overworked and short staffed. Check in with the path staff regularly for slides that are ready to be reviewed. **On the day before you start, at the end of your rotation, and periodically, please actively reconcile the records in the book and the excel file, see what is missing, and try to ascertain why.** Entering a specimen # into IPMS at the National Lab will tell you at what stage of processing it is (eg accepted in lab, grossed, assigned to a pathologist, signed out, etc-- see Appendix). If it is not obvious from there where the slide is, Edson can be very helpful. In a worst case scenario, slides can be recut from the block if they are truly lost. If the block is lost, so likely is all hope of finding the specimen.

**When you have a slide that you would like to photograph yourself**, there is a microscope with a camera on the 2nd floor on the national laboratory across the hall from the Dr Kayembe’s office. First, log on to the computer connected to the scope: leave the existing login information and select ‘this computer’ in the drop down menu. The password is written on the top right of the key board (PW: Sam*s0n). Click on the AxioVision AC icon on the desktop. Turn microscope on and place the pathology slide on the scope. Click on ‘Live’. You have to increase the light brightness on the microscope (beyond where one can comfortably view through the ocular piece). Click properties then adjust until the colors on the histogram form curves. Click automatic which will adjust the white balance. Then click display and best fit. Click on snap to take the photograph. You can save photographs directly to a jump drive you bring with you. However, you should be careful since there are often viruses on the government computers.

Handing off the biopsy book/log to the next derm resident is a **crucial part of your role.**

**Microbiology**

Each micro test (bacterial, mycobacterial, and fungal cultures/stains) needs its own accession form. Take this form to the main lab to be entered into the system, and to get an associated acquisition number. Enter this number into the biopsy book, just as you would for histology.

Leave mycobacterial samples there-- they will be delivered to the National TB Lab (off campus), and results can be retrieved from the main lab many weeks later. You can also call the National TB Lab (off campus) to follow up on mycobacterial results (or to get approximate date for final results) at telephone number 3902368.
Take bacterial specimens around the corner to the bacterial lab (see map). This is also the place to get the most rapid bacterial culture results (eventually, the results will be available at the main lab and in IPMS). Fungal cultures should be taken to the mycology lab in the National lab on the second floor, down the hall from histology (turn left from the stairwell, rather than right). Get results from the mycology lab too.

Other labs
Chemistry and Hematology tests can be ordered through IPMS (see appendix), or on paper when IPMS is down. The nurses and UB residents in clinic with you can be very helpful.

Meditech Overview:
All laboratory, pathology, microbiology and cytology orders must be placed within the MEDITECH computer system. This should be done by the lab techs, but below is the method to place orders for your reference. To place lab orders in the Meditech computer system follow this simple procedure:

1) Double click on MEDITECH icon on desktop of ward computer.
2) On opening screen enter the following
   i. Username________
   ii. Password________
3) Find and click on EMR LINK on right-sided toolbar.
4) Find and click on patient list at current location (e.g. Male Medical Ward)
5) Click on ORDER ANY PROCEDURE
6) Type in order you wish to enter
7) When prompted answer “Y” to question “Collected by Doctor or Nurse” if you want the stickers for the tubes printed out.
8) When the orders are complete, click on SUBMIT, to order the test and print out labels.
You will be prompted to fill out the submission code________

After collecting specimens place them in box on the nurses’ station for transportation to the laboratory. **If the specimen is critical take it yourself.**

Ask someone to show you how to use it the first time. The login is “kesjas00”and password ”penn08”(generic used by Penn residents/students). The code for entering biopsies is LAB / PHISTO and for cultures is MIC / [F9] to see dropdown list for Fungal/Bacterial Cx. Note that the PA number (given per visit) is used to track lab/biopsy results, not the PM medical record number.

**NOTE:** The computer systems and electronic medical record system is in transition to a format knows as IPMS. The above orders may soon become irrelevant. See Appendix for how to use IPMS.

Updated October 2013
Outreach Clinics
Affiliated with Princess Marina Hospital is an Outreach service where internists and specialists travel to public hospitals outside of Gaborone to provide consults to patients. Roughly twice a week Miriam Haverkamp, a Botswana-UPenn physician, travels to spend the day at one of these hospitals. She usually gives a talk on a medically relevant topic, sees in-patients or out-patients that the local attendings would like her in-put on and then she visits the HIV continuity clinics to give in-put on improving that system. She is at the hospital all day. There are other specialists who also travel from Gaborone to visit these hospitals though less frequently than Dr. Haverkamp.

There are four dedicated outreach sites for dermatology, Kanye, Lobatse, Mahalapye, and Mochudi, that we will be visiting, and there is a schedule of attendance for the clinics which you will be given over email.

Preparing
- Call the contact person at the hospital (see appendix) 1 week in advance to remind him/her that you are coming, to ensure that patients are scheduled for you, and to ask if they would like you give them a lecture in morning report (and if so, on what topic). The talk should be 20-45 min long and medically relevant to non-dermatologists.
- Call a taxi to arrange transport to/from the hospital or the Gabs bus station, depending on which hospital is scheduled (see below)

Getting there:
You will likely be going on your own or try to go with other medical residents or students. For Kanye and Mahalapye, you will need to arrange transport by taxi. There is a list of taxi drivers in most flats, you should call them at least 4-5 days in advance to arrange transport for the entire day and call them the day before to remind them. You will need to be picked up at around 6:00-6:30 AM depending on the location (you need to arrive at the site before 7:30 when morning report begins. I advise asking your taxi driver when to be picked up in order to arrive at the hospital by 7:20 AM) and usually end the day around 2-3 pm. The cost varies by length of the trip but in our experience ranged from P 400-800 (this comes out of the money originally given to you in your AAD stipend).

Mochudi and Lobatse can be reached quite easily by bus, however, a taxi is likely the most convenient and direct method. We do not recommend taking the bus by yourself, as it is always safer to travel with another person or group. To get to the bus ‘rank’ (station), you can take a combi or, better yet, get one of the taxi drivers to take you in the morning to catch the appropriate bus. The buses to Mochudi and Lobatse both leave every 30 minutes. The 6 AM bus will get you to the hospital in time for morning report.

We (Nic Compton and Adam Lipworth) did take the bus to Kanye but it may not be the preferred method of travel for all residents. We took a 6 AM bus from bus rank to Jwanang (a town ~an hour past Kanye) and let the driver know that we needed to get off at Kanye. They dropped us at an intersection ~5km outside of Kanye, where we flagged a cab to take us the rest of the way to the Seventh Day Adventist Hospital. I (Adam Lipworth) have also taken the bus directly to Kanye (not the one to Jwanang), but this one makes many more stops on the way and got me to...
the hospital ~30 min late, so I would not recommend this. Though a taxi from Gabs to Kanye is more convenient, it is much more expensive.

Outreach Duties:
The dermatology residents have been traveling to these outlying hospitals to provide dermatology consults primarily to outpatients for the past 5 years. Even though there is an outreach schedule, residents should call ahead to remind sites that they will be coming so that they can arrange patients for that day (see the Appendix for contacts). Residents are expected to arrive for morning report and provide a lecture for the staff, if this is requested. A clinic is scheduled and the resident is assigned a room and a nurse to help with procedures and translating. The resident sees the patient and writes a note in the patient’s chart.

Also, after clinic, it is appropriate to let the local physicians know you are also available for inpatient consults, and see them as necessary. Biopsies can be performed and transported back to PMH. It is best to get an email address of the doctor you work with so that you can email biopsy results. There are labs with microscopes in all the hospitals to perform KOHs, Tzancks, and Gram stains.

If a patient needs dermatology follow-up that can be scheduled on the next day a resident will be traveling to the clinic. Make sure to have the outreach schedule with you so that you know when to schedule return visits. The outreach sites are quite oversubscribed, it seems, so remember to discharge patients to PRN follow up or to medicine/pediatric clinic when this is medically acceptable. Also, since all f/u will likely be done by a different resident, passing on photos to future residents can be quite helpful. Photos can be left on the Pilane court computer in the dermatology folder.

Patients are prescribed medications from the same formulary as exists at PMH although my experience was that it was more likely for medications to be out of stock at the outreach clinics. It is often useful to stop by the hospital pharmacy at the outreach site in order to see which dermatologic medications are available.

20-25 patients have been scheduled per day in the outreach dermatology clinics. Number of patients vary greatly- so do not be surprised if 30 patients are scheduled. Typical dermatology cases range from common complaints such as acne, eczema, and drug rashes to more severe presentations such as extensive vitiligo, ulcers, infections, or genetic diseases.

You should definitely plan on seeing more people than just the patients who are scheduled. In my experience, a lot of local villagers, nurses, doctors, and doctors families will also want to been seen. Please be flexible and see them as well, as they have few opportunities to see a dermatologist.

Outreach is a wonderful experience that allows the resident a chance to see patients in rural areas and collaborate with doctors outside of the PMH/Baylor system.
The Princess Marina Inpatient Medicine/Pediatric services and Dermatology Consults

Rounds begin shortly after the morning intake report is completed (around 830-900). The team composition will vary. All of the teams are integrated including Marina interns, MOs, and Penn people. In some situations the residents will lead rounds, in others the specialist. Most teams gather the pending laboratory data prior to beginning rounds. Rounds usually start in the ICU or private ward and continue onto the main medical ward. Each patient on the service is seen in turn and the daily plan established and carried out. Rounds continue until 1200-1300. At 1300 visiting hours begin, and the ward is flooded by families and relatives, making it virtually impossible to continue work.

When called to see a patient on the inpatient service, you will need to write a note in the chart, in addition to discussing your assessment and plan with the referring physician. The doctor’s notes section is the area of the file where the daily progress notes are written. Just like in the outpatient setting, notes should be clear and to-the-point. All non-pharmacy orders (e.g. nursing orders, transfusion orders, diet orders, IVF orders, etc.) go into the note. Just write what you want in your note clearly and the nurse caring for the patient will hopefully read it, understand it and then take care of it. (It also helps to review it with the nurse).

If you would like to start the patient on a medication, discuss this first with the referring physician and primary team. All drug orders need to be completed on the official medication sheets, which usually are found at the front of the file. The names, dosages and availability of many medications are quite different than what you may be accustomed to in the United States but you will quickly catch on as you become more accustomed to PMH. A listing of medications on the National Formulary is available; ask one of the Penn faculty if you can make a copy of it. Below in this guide, there is a list of the dermatologic medications available on the formulary.

All laboratory orders and procedures are taken care of by the medical team. The nursing staff is usually willing to assist you with any procedures but you are responsible for doing them, ordering the appropriate tests, and cleaning up after yourself. Botswana is currently transitioning to a national computerized healthcare system called IPMS, although older systems, such as Meditech, may still be in use in some areas. It is accessible in the larger hospitals and most government clinics. All labs are ordered and retrieved through this system. Instructions for its use are in the “Guide to Princess Marina Hospital”. It has only worked intermittently lately so there will likely be times when labs will have to be ordered in the old written style on special forms.
**GOOGLE DRIVE ACCOUNT: record keeping**

Thanks to one of our innovative rotators, Jeremy Davis, we now have a Google Drive Account to facilitate much of the data backup and record keeping, which used to be kept in excel files saved on relatively random hard-drives.

To Access:

Go to drive.google.com
Username is: BUPDerm (not case-sensitive)
Password is: dumela mma (case sensitive)

We have 2 folders set up:

- **Clinical Photos**
  - Biopsies: stored under accession number and name
  - Follow-ups: stored under name
  - Clinical interest: stored under diagnosis

- **Documents**
  - File: Biopsy Log
  - Files: pending/outstanding path and micro specimens
  - Folder: Patient Handouts
  - Folder: e-Textbooks

You can work directly online (tough with spotty internet), or download the file, edit it, and upload when convenient. Work on an Excel file should can also be cut and pasted into the GoogleDrive file. To improve the internet status, we have a USB cellular modem that will be for use of the derm rotators when the internet wifi is not working (or power is out). Cellular internet through Mascom seems pretty reliable and is only 10 Pula per hour (see earlier section “Staying Connected” for details on reloading this modem).

We recommend that each evening after work, you log onto the drive and do the following:

- Update the cloud backup of the biopsy log (new biopsies, new reads from Dr Kayembe/IPMS, new reads from Dr Kovaric via email)
- Update the lists of pending path and micro results
- Create files for photos taken that day, at least clinical photos of biopsied patients. **Add a brief history (generally a 1-liner)** to each file so that if ultimately the slide is read by Dr Kovaric, the clinical information will already be in a format that is ready to be emailed to Dr Kovarik as soon as the slide is loaded on the teledermpath microscope.
- Digitize the patient log in a GoogleDrive worksheet
HIV

Needle Stick Exposure and PEP
The risk of needle stick exposure is quite real. Most sticks occur when you are rushed or stressed. In the event of a potential exposure immediately stop working, take your first dose of PEP, and notify your clinical supervisor. We will take care of you.

Please note, just as in the United States, you must report all needle stick exposures and other risks, to your supervisor. Your information can be kept confidential if you choose, but we like to know the circumstances surrounding incidents so we can work to prevent them and to make sure that you receive appropriate follow-up on return to Penn. Your clinical supervisor will discuss this with you in country. See Appendix 9.

HIV/AIDS in Botswana
HIV/AIDS surveillance has been taking place since 1990 in various settings in Botswana. The prevalence is close to 40%, making it the country with the second highest percentage of adults infected. As a result, one-third of children are “AIDS orphans.”

A number of factors have contributed to this prevalence:
- Excellent roads with the vast majority of the population located in a relatively small geographic area.
- Customarily, men have a minimum of 4 homes and have at least one sexual partner in each location. These homes include the village dwelling or homestead, usually the principle home; the cattle post; lands for arable farming; and the urban home.
- Rapid movement between the homes, resulting in only narrow differences between rural and urban HIV infection rates.

Botswana’s Response to HIV/AIDS
In the past five years Botswana has created and put into place an extensive HIV prevention and treatment program. This has required the development of an entire HIV management infrastructure since very little was in place. As with all other aspects of health care the program is free to all citizens (they have national health care). Anti-retrovirals (ARV’s) can only be prescribed or changed at one of the treatment sites (we can continue medications on admitted patients).

At the present time there are over 32 ARV sites around the country caring for over 75,000 patients. This is remarkable given that there was essentially no treatment 3 years ago. There are over 17,000 patients registered at the clinic at PMH making it the largest HIV clinic in the world!

Who is targeted for the ART program?
Infected patients get started on ARV’s if they have a documented HIV (+) test, CD4 <200 or an AIDS defining illness. Pregnant woman are also a target group for treatment. First line therapy in Botswana is Combivir and efaveranz or nevaripine (women of pregnancy potential).

A “word” on HIV Testing in Botswana:
As of March 2004 HIV testing has been done on an “opt out” or routine basis. Therefore extensive counseling and an in-depth consent procedure is not required. Every patient of
**undocumented HIV status should be tested (unless they decline).** This is one of our outcomes measures. We cannot manage HIV successfully if we do not identify those infected before they are seriously ill. Rapid testing is readily available. You can just carry the tube to the hospital lab and wait (five minutes) for the results. (It still needs to be ordered in the computer.) There is no need to confirm HIV positive tests (whether done by rapid method or ELISA) with a western blood testing since the prevalence is so high in Botswana. Patients can now also be sent to a special clinic set up with the sole purpose of testing for HIV and counseling positive patients on what to do next. The UB residents and nurses can help you refer patients to this clinic.

**CLINICAL PEARLS**

*Photography Tips (Dermatology-specific, Very Basic/General)*

- Take a picture of a patient label before and after the clinical pictures to make it easy to keep track of photos. Upload these pictures with the clinical images unless the identifiers pose a compliance issue.
- Might be a good idea to include a picture of your note to ensure the clinical history is not lost
- Use the macro lens for anything up close (“flower” icon on most cameras)
- Unless the lighting is VERY bright, use a flash. If the light is too low, the aperture will need to stay open for a long time to let enough light in, and so unavoidable tiny hand movements will make the image blurry. Bright light allows for a crisp image.
- If using a flash, hold the camera at least 12 inches away (preferably 18 inches). You can zoom in to get closer from there. Holding the camera too close will cause the flash to bleach out the image.
  - Only zoom in as far as the camera will allow while still focusing on your subject.
  - Only use the optical zoom. Do not continue into the “Digital zoom” if your camera has this option. Digital zoom just blows it up in exactly the same way you can do later on the computer, except it crops the image permanently as it does so. It causes loss of information without any real gain.
- The closest you can get to a subject depends on the quality of your camera’s macro lens. Excellent ones can get 1cm away. Many can get no closer than 5cm. Trying to get closer than your camera’s limit will render the camera unable to focus. When you have to get so close, using a flash is not an option (the flash will bleach it out, and that is generally to close to get with the zoom from 18 inches away), so you will have to make the ambient lighting a ideal (bright) as possible.
- If you are having trouble achieving this on the “auto” setting, try switching to “Program mode” (often the “P” icon) and to force the macro lens and flash on.
- To take a picture through a dermatoscope:
  - Clean the skin and lens surface and place the lens on the skin (do not do this to contaminated or sterile sites).
  - Adjust the lens to the “0” point (between the (+1.0mm and -1.0mm) so that the lens is protruding almost all the way.
  - Generally, ensure that the dermatoscope is on the polarized setting if it has the alternative option for surface illumination.
  - Set the camera to macro lens, flash OFF.
  - Place the camera lens directly onto the eyepiece of the dermatoscope, focus and click.
- Upload the photos to the drive, with a clinical history one-liner, as soon as possible, while still fresh in your mind, or they will start to blur together.
Specific Disease Tips:

Leprosy: Uncommon in Botswana, but we do have cases now and then. DO NOT TRY TO MANAGE IT YOURSELF. Refer all cases of confirmed or highly suspected Leprosy to the TB clinic. The Ministry of Health provides drugs for them, screens all contacts and assures a steady stream of medications.

Kaposi Sarcoma: A common referral in part because the oncologists generally require tissue diagnosis before starting chemotherapy for widespread disease.
--The clinical spectrum is wide. Many cases are classic, but it can fool even seasoned dermatologists sometimes.
--Consider KS in any patients with massive lymphedema (Elephantiasis nostra verrucosa). Note that filariasis is not endemic to Botswana.
--However, many patients referred in have alternative diagnoses, most commonly lichen planus, psoriasis, lichen simplex chronicus, stasis dermatitis.
--Check the mouth: if there is evidence of KS in the oral mucosa, it may be elsewhere in the GI tract and might suggest a risk of a GI bleed. Check a stool guaiac if able, and/or ensure rapid access to GI/ID.

Other Relatively Common clinical presentations:
- HIV-associated photodermatitis: May be from drugs (eg sulfa, anti-hypertensives, some ARVs) but HIV itself predisposes to photosensitivity. Patients fairly often presents with the end-stage, chronic actinic dermatitis. Consider Pellagra too. Biopsies are generally of very limited utility.
- Evaluation and management of pruritic papules in HIV
  o Pruritus may be increased at low CD4 counts, so even traditionally non-pruritic eruptions, such as bacterial folliculitis, may itch in this population
  o Partial differential: Pruritic papular eruption of HIV (may be a pool of many diseases), eosinophilic folliculitis, pityrosporum folliculitis, scabies, arthropod assault, follicular eczema, prurigo nodularis, et al.
- Severe variants of psoriasis (including rupioid, erythrodermic), seborrheic dermatitis, PRP, lichen planus, atopic dermatitis (especially children with severe eczema).
- You will often need to try to differentiate tinea pedis from eczema or psoriasis. If a scraping is not feasible, it is generally better to take your best guess and treat empirically with close follow up, rather than perform a biopsy (which will likely require a PAS stain, causing lengthy delay). Of course, there may be situations where this is not true.
- SJS/TEN, generally from Neviripine (NNRTI). Many patients also on Sulfa drugs. Risk of SJS/TEN rises as CD4 count decreases.
- Severe acne: Isotretinoin (RoAcutane) is available—there is no iPledge, so use judgment and counsel very carefully if you choose to provide it to females of child-bearing age
- Other: HSV (including eczema herpeticum), VZV (including primary varicella and disseminated zoster), connective tissue diseases (SLE, SCLE, DLE, RA, scleroderma, dermatomyositis), CTCL (occasionally), widespread tinea, Syphilis, molluscum, bullous impetigo and other pyoderma in kids, HPV-disease (verruca vulgaris/plantaris/plana, acquired epidermodyplasia verruciformis, condyloma, vulvar cancer, verrucous carcinoma), albinism, large skin cancers (melanoma, SCC, BCC), multifocal fixed drug eruptions.
Less Common/Rare, but severe or otherwise important

- Disseminated deep mycoses: Endemic opportunistic pathogens include Histoplasma, Blastomyces, Cryptococcus, and Emmonsia species, et al.
- Cutaneous manifestations of TB: uncommon, but the “id” reactions are probably the most often diagnosed (erythema induratum, lichen scrofulosorum, papulonecrotic tuberculid), and if not diagnosed before they self-resolve, it may be a missed opportunity to diagnose TB at an early stage.
- CTCL
- Primary immunobullous dermatoses
- There was a measles outbreak a few years ago. Keep it on your radar.

NOTES ON LANGUAGE

While English is the official government language, Setswana is the language of the Batswana, both the ethnic group and most of the people of the country of Botswana. Due to the vagaries of international boundaries, large numbers of speakers of Setswana are also found in present-day Zimbabwe and South Africa (where the language and the people are called Tswana). Setswana belongs to the African Bantu language group, deriving from the same roots as Zulu in South Africa, Shona in Zimbabwe, and many other languages in the region. Setswana was first written down by Robert Moffat (ancestor to the Superintendent of Princess Marina) when he translated the Bible into Setswana in the 1830s. Since Setswana was first written by an English speaker, most of the language is phonetically spelled for English speakers, with a few notable exceptions (G is nearly always pronounced as H and TH as T). There are other languages spoken in Botswana, notably the language of the San of the Kalahari and Kalanga, spoken by a minority group from the north of the country.

After Botswana’s prosperity started in the 1970s, newly independent Botswana invested heavily in primary schooling (just as it did in primary health care), so most of your patients under 30 will have had at least a few years of primary school and will be able to have a conversation with you in English, though they will be more comfortable in Setswana if (as is likely) it was spoken at home. The English fluency of Batswana over 30 varies tremendously, but age is a good guide, with the elderly least likely to be able to communicate in English, and many middle-aged Batswana able to understand only some English and then only when spoken in a Commonwealth/British accent. You may recognize some cognates to English, German, or Dutch, most of which entered Setswana during and after the Protectorate period, generally via South Africa’s English and Boer settlers, but also through neighbors in the former English colony to the northeast, Rhodesia, now Zimbabwe, and the former German colony to the West, now Namibia.

Foreigners are not expected to know Setswana, but even a few words will help you break the ice, assist in building rapport with your patients, show respect for their culture, as well as making you self-sufficient in performing a physical exam (if not a history). The few words/phrases everyone will find of use are marked with two asterisks.
### Essential Setswana

<table>
<thead>
<tr>
<th>English</th>
<th>Setswana</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hello ma'am/sir</td>
<td>Dumela mma/rra</td>
</tr>
<tr>
<td>How are you? (How’s it?)</td>
<td>Le kae?</td>
</tr>
<tr>
<td>How are you? (more formal)</td>
<td>O tsogile (pronounced TSO-HEELE) jang?</td>
</tr>
<tr>
<td>I am fine/We are fine</td>
<td>Ke teng / Re teng (use of the plural shows respect)</td>
</tr>
<tr>
<td>I am fine (more formal). And you?</td>
<td>Ke tsogile sentle. Wena?</td>
</tr>
<tr>
<td>My name is …</td>
<td>Ke nna … Leina lame ke (your name)</td>
</tr>
<tr>
<td>Who are you? (also the name of the national identity card and number)</td>
<td>O mang?</td>
</tr>
<tr>
<td>I am from Philadelphia in America</td>
<td>Ke tswa Philadelphia ko America</td>
</tr>
<tr>
<td>Generic: Goodbye (also “all is well”)</td>
<td>Go siame</td>
</tr>
<tr>
<td>Saying goodbye as one departing (&quot;Stay well&quot;)</td>
<td>Sala sentle</td>
</tr>
<tr>
<td>Saying goodbye as one staying (&quot;Go well&quot;)</td>
<td>Tsamaya sentle</td>
</tr>
<tr>
<td><strong>Yes</strong></td>
<td>E</td>
</tr>
<tr>
<td><strong>No</strong></td>
<td>Nnyaa</td>
</tr>
<tr>
<td>Thank you</td>
<td>Ke a leboga / Re a leboga (pronounced LE-BO-HA) Tanki (borrowed from Africaans)</td>
</tr>
<tr>
<td>Excuse me</td>
<td>Sori</td>
</tr>
<tr>
<td>May I (please) have some water?</td>
<td><em>(Ke kopa)</em> metsi</td>
</tr>
</tbody>
</table>
LIVING IN BOTSWANA

CARS DRIVE ON THE LEFT-HAND SIDE – WATCH OUT WHEN CROSSING THE STREET!!!!

Boipelo Dibotelo: Boipelo is our administrator in Botswana. She is organized, committed, and resourceful. She is very willing to be helpful, so do not hesitate to go to her with problems or questions. However, remember that she is not your mother – be courteous. Thank her!

Flats and Communal Living
Accommodation in Gaborone is located in a fairly safe and beautiful complex. There is a swimming pool and several fruit trees. From Pilane Court, it is about a 10 minute walk from PMH and less than a 5 minute walk to the Main Mall and the BUP research office. The new BUP main office is on the UB campus, about 25-30 minutes from Pilane Court. From the ICC flats, it is a 15-20 minute walk to PMH and the BUP research office, 25 minutes to the Main Mall, and ~30 min to the new BUP offices. It is also just a short walk to the rest of UB, the National stadium, the tennis courts, and the squash courts. All of the accommodations have housekeepers. They keep the places clean and do the laundry and ironing. They are not there to pick up after you! It is communal living, so be respectful of other’s space and try to be neat. We try very hard to house all Penn visitors – even if that means a bit of overcrowding on occasion. It is less expensive and potentially more fun so be prepared to “go with the flow”. You may be asked to change rooms during you stay to better accommodate others based on gender and other considerations. Be prepared for this. The cost of food is usually shared. This is done on an honor system basis so please remember to contribute. Penn rents the accommodation, so we are the tenants. As such – anything that goes wrong structurally is the landlord’s responsibility. If you encounter any maintenance problems please advise Boipelo as soon as possible. They will communicate with the maintenance people. But note that they are not there to buy your toilet paper or light bulbs! Please look after the accommodation – it is nice, but only stays that way if everyone is responsible. If you break something please replace it and let Boipelo know. Penn provides the cleaning materials for the maids to use BUT not personal items for you, such as toilet paper, laundry detergent, soap, or toothpaste. Please take care of simple home “repairs” such as changing light bulbs or a fused plug.

Rules of the Flats
1) Try to be neat – there are a lot of people living in a fairly small place
2) All food is shared
3) Contribute to the purchase of food without being asked.
4) The phones are only for LOCAL CALLS, internet, or to receive international calls. You cannot make outgoing international calls on them.
5) At the end of your stay purchase some item for the flat – either decorative or functional as a remembrance.
6) Make sure there is bread, jam, peanut butter, and tea for the maid in your flat for her to have daily. If you have leftovers she can have, please leave her a note to say so.
7) Internet Etiquette: there are a number of persons living in the flats, please be aware of the time you are using the internet.
8) Please remember new people arrive all the time so leave a few essentials for them to use on arrival.

9) **When you leave the accommodations it is customary to give a “Bone Sela” to the maid who has looked after you. The suggested minimum rate is P100 per month pro rate, so for 6 weeks the Bon Sela is P150**

**Safety**

As noted in the checklist you should register with the US embassy on line before you travel to Botswana. [https://travelregistration.state.gov/ibr](https://travelregistration.state.gov/ibr)

You will generally feel safe in Botswana. The government is stable, and the Batswana are uniformly kind, friendly, and helpful. Reported crimes were almost exclusively robberies (usually cell phones), and car break-ins while parked at the foot of Kgale Hill. Crime is rarely against a person. There is a general feeling that robberies are on the increase. They are blamed on the influx of refugees from Zimbabwe. Remember your street smarts. Do not walk by yourself on the paths after dark, use the streets.

From the US Embassy: “Wild animals pose a danger to tourists. Tourists should bear in mind that, even in the most serene settings, the animals are wild and can pose a threat to life and safety. Tourists should use common sense when approaching wildlife, observe all local or park regulations, and heed all instructions given by tour guides. In addition, tourists are advised that potentially dangerous areas sometimes lack fences and warning signs. Exercise appropriate caution in unfamiliar surroundings”.

**AUTOMOBILE ACCIDENTS** pose a particular risk to travelers in developing countries and Botswana is no exception. We strongly advise short-term travelers to **NOT DRIVE** themselves. In addition, it is not a good idea to be on intra-city roads after dark. Many experienced drivers have had accidents involving cattle (and other cars). Never take chances in a vehicle.

We recognize that you are all adults and generally used to making your own decisions. However, you must remember that while you are in Botswana you also represent the AAD, Baylor, and the University of Pennsylvania. Therefore, the consequences of your actions have the potential to have much greater impact than if it just reflected on you. One foolish act could result in the cancellation of the program. (Example: one student went camping in the Kalahari by himself. Though he might be fully capable, it is generally recommended by locals that one always take two cars on such trips – not to mention the lion issue). Don’t be selfish enough to put the program at risk. Therefore, please ALWAYS be aware of the potential risks of what you are planning to do. If in doubt always check things out with Boipelo Dibotelo. Boipelo should always know your weekend plans if you are going to be out of Gabs.
Money Matters
Cost of living in Botswana
Living in Botswana is less expensive than in the United States. Food and entertainment are 1/3 to 1/2 that of the US. The unit of currency is the Pula and there are about 6-8 to the dollar. There are 100 thebe in a Pula.

Getting and/or Changing Money
ATM cards: American Express cards are almost never accepted; Visa and Master Cards are usable at many restaurants, stores and supermarkets. You can get Pula in an ATM machine with a Visa or Master Card pin number. You cannot use a MAC card. Banks will change dollars to Pula, but you often need an account at the bank to access this exchange service. VERY few places, including banks and exchange bureaus, accept travelers checks. You should definitely bring a card that you can use in a machine to get money. *Before you leave, consider changing your PIN to 4 digits if it is not already as some international ATMs will not accept PINs longer than this. Also, CALL YOUR BANK AND CREDIT CARD COMPANIES to inform them of your trip so there is no suspicion that your card was stolen. Some have had difficulties with obtaining money from certain ATM machines in Gaborone. The ATM located in the Gaborone Sun has proven to be a reliable option, so try that if you are having difficulties. As a fallback you can always go to Barclays near the Main Mall to have money wired.

Most banks are located in the Main Mall, but ATMs are located additionally at Riverwalk and Game City. Be aware beforehand that ATM’s in Gaborone are tied into the PLUS network (not Cirrus, or Nyce). You should check the back of your ATM prior to departure because without a card that is on this network (PLUS) you WILL NOT be able to obtain cash through your bank account with a bank card. You, in all likelihood, will be able to take money out against your VISA or MASTERCARD but you will be paying interest on this money. Dollars can be exchanged at any of the banks at the Main Mall. There is also an American Express Center and money changing place at Riverwalk that can change your US dollars. Just remember, most places close by 1600 during the week, and often charge a service for changing money.

Credit Cards
Credit cards are accepted at most stores, hotels, supermarkets, and restaurants in Botswana. Once you leave the city, however, cash is often preferred/required. American Express cards are almost never accepted; Visa and Master Cards are usable at many restaurants, stores and supermarkets. Before you leave, CALL your credit card company to inform them of your trip so there is no suspicion that your card was stolen. Consider getting a credit card with no international fees (eg Capital One).

Transportation
Since the recent additions of the malls (Riverwalk, Game City), the center of action has moved away from the Main Mall to these new malls, which are located on the outskirts of Gaborone. Therefore, walking in Gaborone is less of an option than it once was. Francistown is more compact and a more “walkable” city. If you do not have a car, there are a number of public transportation options.
Public transportation can be identified by their BLUE license plates. Remember when giving directions, use easily identified places. Most do not know the official street names, but will use the destination as the road name, for example “the road to Gabane.”

Taxis
Cabs are usually readily available. Most of us have numbers programmed into our cell phones and just call one when needed. There is a taxi stand at the bus terminal and the south side of the main mall. Example (approximate) fares:
- A trip within the city costs P20, and at night the cost is around P30.
- Riverwalk 40p
- Game City 40-50p
- Airport 50-60p
- Mokolodi 75-100p

Cabs are often available at Riverwalk and Game City, and they can be easily ordered by phone. If you find that you are taking cabs frequently, it is possible to get the cell phone number of a specific driver and call that person directly when needed. Furthermore, by using a single driver for most of your transportation during your stay you can often ask for lower rates. The larger cab companies are less likely to do this, but smaller companies and individual drivers will. Another idea some have had success with is flagging cabs that already have occupants. Apparently this results in a significantly lower fare (as low as 2 pula, per one traveler).

Taxi drivers who often work with the Penn visitors are:
Khunong: 71481155 (Penn employee-- NOT a cab driver, but sometimes makes extra money driving Penn folks around beyond the scope of his duties.)
Mr T: 72167833
Smiley Cabs 3105858
Justice 71228780
Eliot 71855493

Combis
The combis are the crowded minivans that take passengers around town. They follow specific routes, but there are no route maps so if you do not know which combi to take, ask anyone; people are very friendly and helpful and will make sure you get to where you are going. The cost is P3.50 to ride anywhere on the route. Combis are often full, but there is always room for one more. They are the usual way most locals get around town. Combi rides are always an adventure and a true Botswana experience.

Buses
You can get to any sizable city in Botswana by bus. Typical times are: Gabs-Francistown, 6 hours (P83/person). Francistown-Maun, 6 hours (P40/person). Buses can be found on the north side of the bus station, and they generally leave every half an hour or whenever the bus is full. Destinations are located on the front of the bus. Buses can be very crowded and are not air conditioned, but you can’t beat the price. Get there early to get a seat.
Plane
##DO NOT CHECK ANYTHING OF VALUE -- THERE IS A HIGH LIKELIHOOD THAT IT WILL BE TAKEN FROM YOUR CHECK LUGGAGE (CELL PHONES, CAMERAS, ETC.)##
Air Botswana: Office on Main Mall.  3951921.  Flights to Jo/burg, Maun, Kasane.  Typical fares are $200-400 range.
South African Air: Offices in Broadhurst and Game Malls.  3095740, 3972397

Travel agents/Tour Guides
**Would strongly advise to ask Boipelo for info/advice about any travel plans in Botswana. She is very experienced and very well connected. She can be a tremendous help**

Travelwise: If you want to make plans before you arrive, Boipelo has made arrangements for Penn with Ingrid at Travelwise.  The have recently joined Hogg Robinson and the web site is [www.hrgworldwide.com](http://www.hrgworldwide.com)  attention Ingridt.  Please only contact her after you do some investigations. Ingrid's email is Ingrid.theart@bw,hrgworldwide.com

Tim Race: He will lead outstanding camping trips to the Kalahari.  He has all of the necessary equipment. He is on the higher price range.

Restaurants
All easy to get to by car- none of these are really inexpensive, but are so by USA standards. Andy Schafer rating (actually he did not go to them all):

- **PMH cafeteria**: NO LONGER EXISTS!!  BRING LUNCH TO WORK OR GO TO WHITE HOUSE.
- **White House**: Delicious and inexpensive lunch that is right outside IDCC.  When leaving the hospital, turn right, then go down one block and the white house is on the left (before the road curves right again)_
- **Fresh Café**: Right next to the Choppies near ICC flats.  Delicious breakfast, lunch, and brunch.  Good coffee as well.
- **Bull and Bush**:*** English pub, excellent ribs, excellent pizza, music and disco dancing some nights, monthly trivia contest.
- **Gabarone Yacht Club**:*** At the Gabarone Dam.  This place was a favorite for “sundowners” on a Wednesday or Friday after work (closed to public on other days). Take a cab, and watch the sunset over the water.  Enjoy the wine and beer and the best hamburgers in town.
- **Maharaja**:*** Indian restaurant next to the Bull and Bush
- **Moghul**: ****Indian, less expensive than the Maharaja.
- **Gab Sun Hotel**: ** expensive, but excellent Sunday brunch.  Mahogany : upscale restaurant with piano player.  Happy hour on weekdays from 6-7pm with half-price drinks.
- **Newscafe**: ** mid range, upscale, South African franchise, at present seems to be the place for the young professionals (esp Thursday evenings
- **Sanitas**: ****Tea house: favorite for Sunday brunch and for lunches.  Located in a garden center that has many plants to purchase.  Nice setting
o **Mokolodi:** there is a very nice restaurant at the game park about 15 km down the road to Lobatse. One of the fanciest restaurants in Gabs. Can get some exotic foods such as kudu steak, ostrich, impala steak, etc. recently started doing breakfasts. Probably the best restaurant in Gabs. It is worth it to pay extra and pet the Cheetahs!

o **Grand Palm Hotel:** Livingstone’s Restaurant has a help yourself to as much as you want to eat for around P100 per person. Very nice buffet.

o **Red Lantern:** Excellent Chinese Restaurant in Broadhurst – 3908514. Will also do take out orders which you have to collect.

o **Ashoka:** African Mall. Indian food. Well worth a visit for curry lovers

o **Caravella:** Portuguese. One of the best restaurants in Gabs

o **Riverwalk Mall:**
  o Milky Lane: Only ice cream store in Gabs (has outlet at game city also)
  o Primi Piatti: ***Italian
  o Fish Monger: ***fish, excellent, pricey
  o Equatorial Coffee ** Company: lunch and coffee
  o Debonnaire Pizza *** (they actually deliver)
  o Thai restaurant – excellent, but expensive
  o Linga Longa: similar to Mugg and Bean (see below)

o **Game City:**
  o Ocean Basket: Known for its good fish dishes.
  o Mugg and Bean: best coffee drinks, excellent breakfast and lunch. They make their own muffins, cakes are for sale and are huge but excellent.
  o Milky Lane: good ice cream and crepes

o **Others Around town:**
  o Confectionary in the African Mall: outstanding bakery good and coffee. A must.
  o Pie City: The best lunch bargains are pies (meat or vegetable). They are the main fast food – delicious and inexpensive. Discounted late in the day (6 pula per pie)

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**Malls**
The term “mall” is used for any collection of stores. There have been two relatively modern malls built in the past decade in Gabs, Riverwalk and Game City.

o **Main Mall:** Center of town near the government buildings. This is a 10’ walk from the hospital. and about a 20’ from ICC, and a 3 min walk from Pilabe Court. Past its prime, but some atmosphere. Outdoor mall with a lot of stalls where people sell crafts, vegetables, etc. You can bargain. Good place to walk from the hospital to get a pie or pizza for lunch.

o **BBS Mall:** Near the private hospital in Broadhurst. Also about a 20’ walk. Also more atmospheric that the modern malls. There is a good **second-hand bookstore** at this mall that is above the Woolworths. It has much more atmosphere than Riverwalk or Game and on the weekends is full of stalls where you can bargain for all sorts of things

o **Riverwalk:** Multiplex movie, restaurants, grocery stores, liquor store, hardware store, computer store, electronics store, internet café, book store (expensive), clothing and sports stores.

o **Game City:** Largest mall in Gabs, near Kgale Hill. All mall-type stores, plus Game – a huge Walmart type place where you can get most everything.

o **African Mall:** near the main mall, small but also with some atmosphere. Good fabric store and bakery.

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Updated October 2013
Movies
There are 2 multiplex movie theaters in Gaborone and one in Francistown. In Gabs one is at Riverwalk, and one is at Game City. These theaters tend to play the large blockbuster Hollywood movies, other bad movies from the US, and some Academy nominated movies. Tickets are around P25. Movies show from Wednesday to Sunday. Movies are assigned seating – like going to the theater. They will ask for your seat preference when you buy the tickets.

Sports
- **Gyms**: are found in Gaborone. Most Penn people go to Gym Active in the Village Mall (accessible by combi). The gym has a great pool, cardio equipment, weights, and classes. The staff is uniformly nice and helpful. You can pay by day, week, or month. Student rates available as well. There is also a gym in the Broadhurst area and at the Gaborone Sun hotel.
- **Tennis**: Tennis club at Gaborone Sun and National Tennis Center (have to join either of these). One can use the courts at the University of Botswana for free.
- **Squash**: Squash courts at the Gabs Sun, the National Squash Center (behind the National Stadium) and Gym Active.
- **Running**: National Stadium is open, and you can often see outstanding, young Batswana training there. You will see few runners on the street. There is also nice running behind the stadium on packet sand – towards the Cricket pitch and around the UB stadium and old airstrip. You will need some guidance, but you can take a very long run in the bush by going past the cricket pitch.
- **Football**: Spectator games nightly on the dirt fields between the National Stadium and the University. If you are lucky there will be some national team games at the stadium.
- **Rugby**: The Gaborone Rugby Club is located near the Village Mall.
- **Cricket**: There is a national cricket pitch behind the main football stadium
- **Golf**: The Club is walking distance from the Gabs Sun. Greens fees/club rental/pull cart rental cost about $25. There is a beautiful course about 15km north of the city at Phakalane. It costs about $50 to play there.
- **Ultimate Frisbee**: Monday and Thursday nights at 7pm at the Gaborone Sports club in the Village. 30 pula because it is played under the lights at the private club. Great turnouts with lots of ex-pats.

Night Life
Dancing:
- **Che Ntemba** in Mogoditshane- P20 to enter, and a mix of local music and American pop. Filled mostly with locals. Great scene, but bring ear plugs
- **Bull and Bush** becomes a dance club late on weekend nights

Karaoke at the Red Lantern restaurant

Bars:
- **Bull and Bush**: “English pub” in north part of Gabs. Large screen television to watch sports, pool, and great pizza. Mix of ex-pats and Batswana. Once a month trivia contest. We usually enter at least one team. Quiz night is the last Wednesday of the month at the
Bull and Bush. Jonestribe and UPENN have teams regularly in this event which is great fun.

- **Irish Pub**: “Irish Pub” in Game City where you can find Guinness (but in a can). Decent food. Mix of expats and Batswana.
- **Jazz club**: Club Satchmo: real jazz!

**Day trips** (You can hire a cab for all or part of a day to take you to any of these places)

**In Gaborone**

- **Kgale Hill**: Kgale Hill is located in the southwest part of Gabs. It is a moderate hike, about 3 kilometers to the top. Great 360-degree view of Gabs from the top. Look out for the baboons. *Note: Cars have been broken into when left at the foot of the hill. You can leave your car in the nearby parking lot at Game City and walk to the hill. Because of recent mugging, the USA embassy has advised against climbing Kgale. It is ok to go, but go in a group and do not bring anything of value.*
- **Gaborone Dam**: The only body of water in Gabs! Fun place for a picnic. Can check out the yacht club for a drink. Can also rent 4-wheelers for a ride around the dam. Sometimes you need a permit, but sometimes an “exception” will be made. There have been some muggings there lately so check it out with some of the locals before going.
- **Mokolodi Game Preserve**: Located a mere 15 kilometers outside Gaborone on the road to Lobatse. A rich lawyer who still lives in the large mansion on the property donated this beautiful area of land. Game includes various antelopes, giraffe, zebras, warthogs, white rhino, and elephants. This is a nice and convenient “first safari”, though a bit expensive. They also have two cheetahs. You can take guided tours and attend various educational programs on site. It is about P35 for a one-day pass. Make sure you save time to eat at their restaurant- one of the best in Gabs.
- **Gaborone Game Park**: About a 5 minute drive or 20 minute walk from the flats. It is certainly not very exotic by African standards (antelope, warthogs, zebras and ostrich), but very pleasant place to spend an afternoon. GGP does not require a 4-wheel drive car (but can only go in with a car) and only 10 Pula. There are several Game View sites where one can sit and enjoy the peace and bird sounds. I think this is overlooked as a place to spend some time.
- **National Museum**: Located near the Main Mall and a block from PMH. Nice museum, but not very big. You only need a couple of hours.
- **Art**: Thapong Visual Arts Center is a cooperative of artists’ studios, located near Gym Active, across from the old prison in Gaborone Village. Open daily until 6:30pm, Thapong features an amazing collection of resident artists’ works that are best described as contemporary African sculptures and paintings. The studios are in shanties scattered around the cooperative, and the artists are always more than willing to talk with visitors. Ask for Barnabus.
- **Craft Center**: A group of craft stores in the Broadhurst section of town. Open during the week and on Saturdays until 15:00. Here you will find a bunch of ex-pats buying crafts, clothes, and eating at the Italian deli. There is a hair salon here and a wine shop that sells Biltong. (local dried meat)
- Local theatrical groups and dance troupes often have events and it is worth looking out for these as they are normally very good and well attended. Boipelo tries to circulate the information when she hears about them.

Updated October 2013
Around Gaborone

- **Thamaga**: Small village outside of Gabs known for its pottery. It is a great place to buy souvenirs. Approximately 30-45 minute drive along the road to Gabane, and can catch a bus there at the bus station.

- **Gabane**: village close to Gabs: can visit the Kotla (tribal meeting place) and a glass craft works (can buy glassworks and can take classes)

- **Oodi**: There is a weaving cooperative that one can tour and get local weaving. Easily included on a drive to Mochudi.

- **Oti**: There is a crafts cooperative run by Camphill. A very nice ½ day trip. Can also take in the Vulturary outside of town. There is a nice little Barantani Lodge in the village where one can stop for a cold drink. A cheese factory is across the road from the village

- **Mochudi**: Interesting local museum with a great view of the valley

- **Molepolole**: On the way to the Kalahari. Can visit Scottish Livingstone Hospital which was started by Dr Alfred Merriweather missionary /doctor, his wife still lives out there. She started the Shepherd School with 8 children, today there are over 500.

- **Kolobeng**: There is a site at Kolobeng where David Livingstone, missionary/explorer built a house and church on his way to the north before he discovered The Victoria Falls. This homestead was burnt down by the Boers and only ruins remain and the graves of some of his family. Alfred is on site and always pleased to show visitors around. Easily included in a drive to Thamaga

**Longer trips**

With most trips, there are options for comfortable living, budget living, and camping. Boipelo may be able to help with accommodations, etc. Trips to Okavango Delta, Chobe and Victoria Falls would have to be done at the end of your stay since they take more than a weekend.

- **Serowe**: About a 4 hour drive to the north. It is a good overnight trip and one can stay in a self-catering chalet in the rhino sanctuary. This could be easily done in a weekend.

- **Okavango Delta**: This inland delta is the biggest tourist attraction in Botswana. The camps in the delta are also quite expensive, but are all-inclusive and the most unique part of Botswana. They should not be missed – you will not regret it. Great animals, birds, and night sounds of the tree frogs. Camps are much more than comfortable. Fly to Maun and then take Cessna into one of the camps

- **Chobe Game Preserve/Victoria Falls**: In northeast part of Botswana. Chobe has the highest concentration of elephants in Africa. The evening sundowner cruise on the Chobe river is a must. Please request to be on a large boat. The sunsets are amazing and you will see the game in a totally different environment. Elephants swim across the river and the hippos wallow in their pods. The Chobe River Lodge has self catering chalets either 2 or 3 bedded. Gill has negotiated a UPENN rate. She can book this for you and organize a pick up at Kasane airport. If you do not want to self cater the Garden Lodge and the Mowana Lodge are other options. Day trips to Victoria Falls are available. The market there is amazing and you can literally barter your shirt to your shoes.

- **Madikwe**: Right over the border in South Africa. You must make reservations ahead. There are lots of lodging options and prices, but none that are “cheap”. It is an absolutely fabulous (and romantic) weekend getaway. Make reservations in advance at Makanyane, Tau, Madikwe River Camp, Jack’s Tree House (a little less expensive).
Madikwe is well worth the expense! Just outside of Madikwe is Masela Sela at a far more reasonable price, around P600 a night, which includes a game drive each day + an extra one if you pay for it. Ask Boipelo for advice about options – re: expense. Most people have preferred to stay in the park. You can view the lodges at: www.madikwesafaris.com. Our former administrator, Nikki Jones, had arranged a special UPENN rate at Tau, but in order to ensure these rates are only used by Penn residents/students/faculty, the park requires notice from Boipelo each time someone wants the special rate. Although Nikki now lives in London and is no longer affiliated with the Botswana-UPenn Partnership, she has graciously offered to let the folks at Tau know if our residents are interested in going. Please email her at niks3012@gmail.com if you would like to hear about availability and pricing at Tao in a given week.

- **Jo’burg:** Five hours by car from Gabs. Make sure you get a very, very detailed map, as street signs are nearly nonexistent, and it is very easy to get lost (and your trip could be hours, hours long). Northern suburbs are beautiful and safe, but Jo’burg proper is known to be very, very dangerous. Great restaurants and great B&Bs. Some activities include Soweto Township tour, the Apartheid Museum, and various other cultural activities. Remember the Tlkoweng border closes at 22:00.

- **Pretoria:** On the way to Jo’burg, but an hour closer. During season the Jacaranda trees that line the streets are UNBELIEVEABLE in season. There is also an excellent zoo. The Kruger museum is well worth it for an understanding of South African history.

- **Khutse:** gateway to the Kalahari: a weekend camping in the Kalahari is a life-altering experience. Even camping is pricey. One should not do this without an experienced guide or other person – lions et al are too dangerous for a novice to be out there alone. There is a new lodge just outside of Khutse that is very nice and the place to go if you are not a camper or if you cannot arrange for a camping trip. **Remember safety first - always go with more than one vehicle and an experienced guide.**

- **Tuli Safari Lodge:** We run a clinic at the lodge once a month. It is very worthwhile trip. The scenery is beautiful and the lodge is very nice. One can stay inexpensively in a great tent site on the banks of the Limpopo river.

Well that's it for now (except for the Appendices)... Enjoy your time on the wards at PMH ad please once you return to the States let us know how we can improve the experience at Marina and what more information you’d like to see included in this document. Send your ideas and suggestions to Carrie at Carrie.Kovarik@uphs.upenn.edu and Adam at alipworth@gmail.com.
APPENDIX 1: Glossary of acronyms

BUP: Botswana UPENN Partnership
UB: University of Botswana
ACHAP: African Comprehensive HIV-AIDS Partnership
IDCC: Immunodeficiency Care Center, the HIV clinic at PMH
KITSO: National HIV training program
BOTUSA: Botswana-USA partnership
BONASO: Botswana Network of AIDS Services Organizations (sp)
BONEPWA: Botswana Network of People Living with HIV/AIDS

Medical Acronyms
CCF: Congestive cardiac failure
PTD: Pulmonary tuberculosis
ATT: Anti-tuberculous therapy
PMTCT: Prevention of mother to child transmission program
CI: Clinically immuno - suppressed – not HIV tested but looks like it
ARV: Anti-retrovirals

APPENDIX 2: MAIN OUTREACH CONTACTS:

Mochudi
Dr. Farrar: 72527079
Alternatives: Dr Onyach, Chief Medical Officer
Email home: coonyach@info.bw
Mobile 7186 0095
Dr Mahbub: mobile 7141 9490

Kanye
Dr Sibinda--Medical Director
Mobile 71771640
Email: sibinda@gamil.com
Dr Mungandi-- Acting CMO
Mobile 75959706
work: docinnocent@yahoo.com
Dr. Samson Laralyetan
Cell: 73484881
Email: samsonlaraiyetan@yahoo.com

Lobatse
Dr. Lecoge (Superintendent)
Landline 5330333, 5330334, or 5332698

Mahalapye
Dr. Setlhare (Director of the Family Medicine Residency)
email: vincent.setlhare@mopipi.ub.bw
cell: 74653222 (preferred method of contact)
Alternative: Dr. Tshitenge (Family Medicine)
cell: 71550036,
email: stephotshitenge@yahoo.com
APPENDIX 3: Important Phone Numbers/Addresses
(Note: all cell numbers start with 7, all land lines start with 3)

Derm phones 72731961, 72659078
Dr. Kaymebe (Path) 71849217
Boipelo Dibotelo W: +267 355-4861
M:+267 7387-4486
F:+267 317-0957
Dr. Miriam Haverkamp 76516520
Dr. Mike Reid 72478777
Princess Marina Hospital: 3953221, 3621400
Medical emergency
USA Embassy 3953982
National operator: 100
International operator: 101
National directory: 192
International directory: 193
Direct dial to USA: 001-area code-number
Direct dial to South Africa: 0027 – (11 = Jo’burg) + phone number

Address of Pilane Court Flats, Plot 154/155, Ext 9, Gaborone
Address of ICC: Plot 2559/60, Ext 9, Gabarone

APPENDIX 4: Checking on slides in IPMS
1) Log on to IPMS using yours of Carries username/password
2) Click "Live Laboratory"
3) Click "Inquiry"
4) Click "Print Specimens (Internal)"
5) Enter the number of the specimen as "PS_ _ _ _"
6) Press enter
7) click "Short form Y"
8) See the 4 letter acronym listed
   a) RLAB = Received by lab
   b) RSRS = Received in Grossing
   c) GRSS = Grossed
   d) STAI = Stained
   e) ASSP = Assigned to pathologist
   f) SOUT = Signed out
9) If either ASSP or SOUT, Press F12 twice in a row to see who it was signed out to, or how it was read
10) Look at the report, with a pathologist's name on it (Kayeb, Zhou (Feng), or Chowdry, and (if SOUT), with a read. Print if you would like.
Press ESC to go back and enter other samples.
APPENDIX 5: USING THE TELEDERMPATH MICROSCOPE
This is the Scope in Dr Kayembe's room that Carrie can read from Philly.

1. Load the slides in the wells. Well 1 is closest to the door, well 4 to the window. Pull the small knob on each well away from the neck of the scope (toward Dr. K's chair) to open the slot for the slide.
2. Make sure the scope and adjacent computer are on (up to 4 switches: The computer, the white box, the black box, and the scope itself). No password is needed for the computer. Just ignore the prompt and press enter.
3. On the computer desktop, open "Mirax Server"
4. Press the green arrow in the top left corner of the window
5. Press OK
6. Wait for the server to load. When done, it will say "Server Started" in the text box below.
7. Keep the server open and then open Mirax Navigator on the desktop
8. Click "Connect" to local host
9. Click "Slide Overview" on left
10. Press the green circle with the yellow arrow
11. Press OK
12. Allow the scope to scan the slide for 1 min. It will stop when done
13. Click "Microscope" on the top left
14. Choose Objective 2 on the lower right
15. If not in focus, press autofocus
16. Done: Go email the cases to Carrie

NOTE: according to one recent rotator: " Be prepared to manually lower the microscope stage when 'Upper Stage Limit has been reached.' I had to do this 3times. Campbell Stewart kindly taped a set of directions to the scope"

Problems with the microscope and internet access
Grant Shand is the contact person in Gabarone if there is a problem with the internet access on the computer next to the microscope. His contact information is:
Grant Shand
Tel – 3710101 (this gets you to the technical support and they are generally not helpful)
Cell - 73882610 (this number gets you directly to Grant)
E-mail: grant.s@vbnservices.net
APPENDIX 6: Entering Dr Carrie Kovarik's path reads into IPMS

1. Find a free computer in the histology room across the hall from Dr Kayembe's office. Edwin or KK can help you.
2. Log in to IPMS using Carrie's info: Username KOVCAR00, password upennbw12
3. Click "Laboratory Live"
4. Click Princess Marina Hospital
5. Click "Pathologist Desktop"
6. In "Received date" type "t-30"
7. In "Through" box, type "t"
8. Press "Enter" until you are in "Spec Type" and then press F9
9. Type "NP"
10. Select NPHL (Surgical Histopathology)
11. Press OK
12. If there are no specimens, press "Continue"
13. Click "Add Specimen"
14. Scan the barcodes from any of the accession forms from specimen that Carrie has read. If no barcode, you can write in the PS numbers.
15. press "Save"
16. Check the sample you wish to enter first
17. Click "Findings Entry" on the right
18. Click "Micro" (as in "microscopy")
19. Enter the histologic description in the text box
20. Click "Save"
21. Go down one line to "Dignosis", click on it, and enter the diagnosis into the text box
22. Click "Save"
23. Scroll down to #12, "Proc Comp" and click on it
24. Write "Y" in the green "Comp box"
25. Click save
26. Click "Manual Sign" on the right
27. Close the draft page with no findings reported that will pop up automatically
28. Click on the first box in the "Final Signature" table
29. Enter KOVCAR00
30. Go to "Change Status" and write "Y"
31. Click Enter.
32. Go on to the next specimen and repeat
**APPENDIX 7: KEY CONTACTS**

**Administration of the Botswana-UPenn Partnership – Philadelphia Office**
- Harvey Friedman, MD, Director - hfriedma@mail.med.upenn.edu
- Heather Calvert, Associate Director - hcalvert@mail.med.upenn.edu
- Peter Mulcahy, Grants Manager - pmulcahy@mail.med.upenn.edu
- Robert Muraglia, Financial Coordinator - rbae@mail.med.upenn.edu
- Carrie Kovarik, M.D., Head of the Dermatology Program and Co-Director of the AAD Dermatology Rotation

**Administration of the Botswana-UPenn Partnership – Gaborone Office**
- Doreen Ramogola-Masire, MD, Country Director and head of Women's Health - doreen.masire@gmail.com
- Andrew Steenhoff, MD, Director and Director of Research and Peds TB - steenhoff@email.chop.edu
- Boipelo Dibotelo, Student, Resident and Visitor Coordinator - dibotelob@botswana-upenn.co.bw
- Miriam Haverkamp, MD, Clinical Rotation Supervisor, Director of HIV Care and Support - miriamhaverkamp@gmail.com
- Ari Ho-Foster – C.O.O
- Mike Reid, MD – HIV Care and Support
- Jacque Firth, MD – Director of Adult TB
- Dr Tonya Arscott-Mills – Paeds TB
- Dr Raina Phillips – Adult TB and HIV Care and support
- Dr Kim Ganster – HIV Care and Support
- Dr Shikata Mudhaka – Adult TB
- Dr Nicola Zetola – TB

**Other Key People associated with the Dermatology Rotation**
- Dr. M Kayembe, Head of Pathology, National Health Laboratory, Gaborone - mkkayembe@yahoo.com
- Dr. Pina, Cuban Dermatologist in the Princess Marina Dermatology Clinic
- Dr. Mogomotsi Matshaba (Mogo), Clinical Director of the Baylor Pediatric Clinic
- Dr. Adam Lipworth, Co-Director of the AAD Dermatology Rotation

Updated October 2013
APPENDIX 8: Botswana UPenn Occupational Post-Exposure Prophylaxis (PEP) Protocol for Healthcare Workers (Updated September 2013)

Introduction:
As an organization committed to the betterment of HIV care in Botswana, we may be exposed to bloodborne pathogens during the course of our work. All staff teams that work more than 2 hours away from the BUP sites and BUP sites (Francistown, Ghanzi, 214 Independence) have their own 48 hours supply. The full month’s course is stored with Boipelo Dibotelo at 244G in the main office. In case of an exposure a call to the HIV specialists named below is to be made as soon as possible. If neither one of them can be reached, start PEP and contact Boineelo Mabe at 71700106 or Boipelo Dibotelo at 73874486 who will advise you on who to contact. In case of a valid exposure an overnight courier will deliver the needed 1 month supply to the site of the exposed staff member.

HIV
The risk of acquiring HIV disease from a percutaneous or mucocutaneous exposure varies, and is difficult to quantify. In general, the risk of acquiring HIV secondary to a needlestick injury from a hollow needle is approximately 0.3%. There are many factors that influence this general risk, which could be higher depending on the size of the inoculum and the burden of disease in the patient. Mucocutaneous exposures carry a risk of approximately 0.09% with the risk also varying depending on the size of the inoculum. Other potentially infectious fluids include cerebrospinal fluid, amniotic fluid, peritoneal, pleural or pericardial fluid, saliva and breast milk. Risk with exposure to these fluids is in general very low and difficult to quantify. Urine and feces (unless obviously contaminated with blood) are not considered to harbor HIV. In general exposure to these fluids would not necessitate post exposure prophylaxis.

Current estimates indicate a national HIV prevalence of 17.6%. This is higher in healthcare settings, where prevalence rates are at least 54%. Many individuals in the inpatient settings are presenting with advanced disease which also increases the risk of transmission as many of those patients have high viral loads.

Hepatitis B
The risk of acquiring Hepatitis B infection varies depending on the level of exposure, but may range from 6-30%. The level of viremia will also affect transmission, which is higher in patients with Hepatitis E antigen positivity. Mucocutaneous exposure also carries a risk of transmission that is less than that of a direct needlestick. Other potentially infectious fluids are similar to those listed under the HIV section. The risk of developing chronic Hepatitis B infection after an acute infection is < 5%. Of those with a chronic hepatitis B infection 15% will develop cirrhosis or cancer as a consequence of the infection.

Current estimates of Hepatitis B disease in Botswana are limited with one retrospective study in HIV positive individuals reporting Hep B surface antigen positivity of 10.6%. Of those, 40% were Hepatitis B e antigen positive. Individuals who are vaccinated for Hepatitis B and have developed an appropriate antibody response are considered immune from infection.

Hepatitis C
As with hepatitis B and HIV, the risk of acquiring hepatitis also depends on the level of exposure but risk from a needle stick is estimated at 1.8%. Hepatitis C can also be transmitted in bodily fluids such as semen, vaginal secretions and breast milk (rare). In the same retrospective study cited above, they found no evidence of previous Hepatitis C infection. This cohort was from 2001, so it is possible that there may now be hepatitis C circulating in our community. However, there is currently no treatment available to prevent hepatitis C infection. Thereby in case the
source patient is determined to be hepatitis C positive the exposed client will be tested for hepatitis C at exposure and then again 6 months after.

In the case of a needle stick, other blood or body fluid exposures which may occur while working, follow the recommendations below. Please note the following:

| INITIAL STEPS TO FOLLOW IF YOU HAVE BEEN EXPOSED TO BLOOD OR BODY FLUIDS |
|---------------------------------|--------------------------------------------------------------------------|
| 1                               | Do not panic                                                             |
| 2                               | Remove gloves and wash hands with soap and water or rinse exposed mucus membranes with water for 5 minutes. If you are wearing contacts, remove those as well prior to washing out your eyes. Do not squeeze the area of the needle stick to make it bleed more. Do NOT use disinfectants as this may increase transmission rate. |
| 3                               | Notify your local supervisor immediately and then notify the HIV Specialist (or designated PEP counselor, hereafter referred to as PEP counselor). The PEP counselor will help you decide if you need prophylaxis to prevent HIV transmission (see Steps A, B, C below) and need protection against Hepatitis B transmission. Please see the sections below for additional details. |
| 4                               | Do rapid test for HIV and Hepatitis B Ag test (if you are not vaccinated or did not respond to the vaccination for Hepatitis B) on source patient. If the source patient does not consent, by Botswana law you can test the patient, but CANNOT disclose the results. If the patient is a known HIV patient on ART send a viral load, if the patient is not on ART just test for Hepatitis B if the exposed person is a non-responder to the vaccination or has not received the hepatitis B vaccination. |
| 5                               | Do a rapid HIV test and Hepatitis B titer/antibody panel (if not done 6 months after vaccination was completed) on yourself and document the results. This is voluntary. If you choose not to do this, you will be asked to sign a waiver, but will not be asked to disclose the reason why you are declining. **If you decline the test, you will not be eligible for post exposure prophylaxis through BUP.** However, you are encouraged to get tested and seek PEP in the public sector. |
| 6                               | Begin treatment with the supply of antiretroviral drugs given to you by the HIV specialist or PEP counselor if your exposure is determined to warrant PEP |
| 7                               | If a decision is made that you need prophylaxis, take the first dose as soon as possible if you choose to take PEP. Be aware of the potential interactions of PEP with other medicines you may be taking (including oral contraceptives, anti-seizure medications, anti-tuberculosis medication and other significant medical conditions such as pregnancy). |

**For the PEP Counselor:**

For all reported exposures the form in the annex has to be filled out irrespective of whether the exposed person received PEP or not. The Form is to be filed with Boinelo Mabe from HR within 72 hours of the reported event for safe keeping.

Determine PEP recommendations using table below

HIV negative individuals not on rifampin or an enzyme inducing epileptic drug should receive the standard regimen listed below. If any of those conditions should exist the optimal prophylactic
A regimen should be discussed with a specialist. Pregnant healthcare workers should also be offered the regimen listed below. If the source patient is on ARVs and failing therapy, the case should be discussed with an HIV specialist and the current regimen given below pending alternate recommendations.

**Infectious body fluids are:** blood, any body fluid that is blood tinged, semen, CSF, vaginal -, peritoneal -, amniotic -, pericardial -, synovial fluid

**Non infectious (unless contaminated with blood) are:** saliva, urine and tears

<table>
<thead>
<tr>
<th>Exposure to infectious fluids (see above)</th>
<th>HIV source</th>
<th>PEP (all courses are for 28 days)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intact skin</td>
<td>Regardless of HIV status</td>
<td>No PEP indicated</td>
</tr>
<tr>
<td>needle stick, mucous membrane exposure or compromised skin</td>
<td>positive, on treatment, and suppressed</td>
<td>Truvada (blue) 1 pill once a day and Raltegravir (grey) 1 pill twice a day this may cause diarrhea, nausea and vomiting, counsel person on this (read package inserts)</td>
</tr>
<tr>
<td>needle stick, mucous membrane exposure or compromised skin</td>
<td>Positive on treatment but suspected or documented failure</td>
<td>Discuss with HIV specialist at BUP, if unable to reach, initiate Truvada and Raltegravir and discuss regimen with HIV specialist at the earliest possible time.</td>
</tr>
<tr>
<td>needle stick, mucous membrane exposure or compromised skin</td>
<td>Positive not yet on treatment</td>
<td>Truvada (blue) 1 pill once a day and Raltegravir (grey) 1 pill twice a day (read package inserts)</td>
</tr>
<tr>
<td>needle stick, mucous membrane exposure or compromised skin</td>
<td>Negative and presumed to be low risk</td>
<td>Do not initiate regimen and discuss with HIV specialist</td>
</tr>
<tr>
<td>needle stick, mucous membrane exposure or compromised skin</td>
<td>Negative and presumed to be medium to high risk</td>
<td>Truvada (blue) 1 pill once a day and Raltegravir (grey) 1 pill twice a day (read package inserts)</td>
</tr>
</tbody>
</table>
| needle stick, mucous membrane exposure or compromised skin | Unknown | Truvada (blue) 1 pill once a day and Raltegravir (grey) 1 pill twice a day (read package inserts) 
Start regimen above until source patient HIV status is known or for full 28 days if unable to find out source patient HIV status |
IMPORTANT CONTACT INFORMATION

<table>
<thead>
<tr>
<th>Name</th>
<th>Contact Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Miriam Haverkamp</td>
<td>Mobile +267765165 or email <a href="mailto:haverkamp.bup@gmail.com">haverkamp.bup@gmail.com</a></td>
</tr>
<tr>
<td>Mike Reid</td>
<td>Mobile +26772478777 or email <a href="mailto:michael.j.a.reid@gmail.com">michael.j.a.reid@gmail.com</a></td>
</tr>
<tr>
<td>Nicola Zetola</td>
<td>+2677179150 or email <a href="mailto:Nzetola@gmail.com">Nzetola@gmail.com</a></td>
</tr>
<tr>
<td>Andrew Steenhoff</td>
<td>+2677226505 or email <a href="mailto:steenhoff@email.chop.edu">steenhoff@email.chop.edu</a></td>
</tr>
</tbody>
</table>

MAIN SIDE EFFECT OF PEP DRUGS

<table>
<thead>
<tr>
<th>Drug</th>
<th>Side Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tenofovir</td>
<td>Headache, nausea/vomiting</td>
</tr>
<tr>
<td>Emtricitabine</td>
<td>GI side effects, usually well tolerated</td>
</tr>
<tr>
<td>Raltegravir</td>
<td>Headache</td>
</tr>
</tbody>
</table>

Special Situations regarding Post Exposure Prophylaxis:

If the healthcare worker is already HIV positive:

- Data currently indicate that the risk of super-infection is low for sexual transmission. There are currently no data about the risk of super-infection with exposure to HIV through a needle stick or mucosal splash. These will have to be reviewed by an HIV specialist on a case by case basis.

- A few general recommendations are included below:
  1. Not currently on ART: Individuals who are exposed may wish to review their eligibility for ART. In these situations send an urgent CD4 count so that results can be reviewed within 72 hours. If individuals do now qualify for ART, we will refer them urgently to their healthcare provider for ART initiation.
  2. On ART: The majority of individuals on ART will not require any further intervention. Obtain a viral load to document that the patient is virologically suppressed or recommend this be done with the patients healthcare provider. An exposure from a patient failing first or second line regimens should be reviewed on a case by case basis. If there is a large exposure from a known drug resistant patient, it may be reasonable to recommend modifying the healthcare worker’s ART.

If the healthcare worker has Tuberculosis:

- Use of integrase inhibitors in the setting of rifampin is associated with subtherapeutic levels of integrase inhibitors. In the case of an exposure in an HIV negative healthcare worker with TB, those cases should be discussed with an HIV specialist.

Hepatitis B post-exposure prophylaxis:

- All healthcare workers here at BUP should have had three Hepatitis B vaccinations and a Hepatitis B titer determined after the conclusion of the series to document adequate response. Immune compromised employees should receive four times the usual dose (40mcg) for an
adequate response. One to two months after their last vaccination a titer should be drawn and then the documented result kept with the workers files for future reference. If the health care worker has not responded he/she should receive another series and if still no response one to two months after completion of the second course he/she should be categorized as a non-responder. The definition of hepatitis exposures are the same as for HIV exposures unless the source is HbsAg negative. If the source is HbsAg negative NO prophylaxis is necessary.

Hep B prophylaxis recommendation:
*Test source for Hepatitis B surface Antigen, if positive then:*
Responders: No need for treatment
Non-responders after one series of vaccination: Hep B IgG (HBIG) x1 plus one HepB vaccine
Non-responders after two series of vaccination: HBIG x2
Non vaccinated: HBIG x1, initiate Hep B vaccination series
If the Hep B surface antigen of the health care worker is positive, refer the healthcare worker for further evaluation

Follow up:
All health care workers who were tested for HIV and Hepatitis B and were felt to have had a high risk exposure have to get HIV, hepatitis C and if they were negative for hepatitis B also HbsAG testing 6 weeks, 3 and 6 months after the initial exposure.

1 BAIS III, 2008.
1 HIV Care and Support Program, Botswana UPenn Partnership
Exposure report form

Please do not document the full name. Only the first and last name initials plus the date of the incident. For example for Miriam Haverkamp exposed on 1/1/2012 you would document: MH010112

Date and time: _______________________ (dd/mm/yy: hh:mm)

Report for: _______________________

Brief description of incident:

_________________________________________________________________________________
_________________________________________________________________________________
_________________________________________________________________________________
_________________________________________________________________________________
_________________________________________________________________________________
_________________________________________________________________________________
_________________________________________________________________________________
_________________________________________________________________________________

Risk of incident: high intermediate low negligible
Source patient HIV testing: Results: positive negative
Not done, reason: _______________________
If positive: VL: __________ current regimen: _______
Source patient HBs Ag testing: Results: positive negative
Not done, reason: _______________________
Source patient Hep C testing: Results: positive negative
Not done, reason: _______________________
Exposed HCW HIV testing:  Results:  positive     negative
Not done, reason:  ____________________________
If refused  ____________________________
    date and signature of HCW

Exposed HCW HBs Ag testing:  Results:  positive     negative
Not done, reason: ____________________________
If refused  ____________________________
    date and signature of HCW

Exposed HCW HBs Ab testing:  Results:  positive     negative
Not done, reason: ____________________________
If refused  ____________________________
    date and signature of HCW

Exposed HCW Hep C testing:  Results:  positive     negative
Not done, reason: ____________________________
If refused  ____________________________
    date and signature of HCW

Exposed person testing log:

<table>
<thead>
<tr>
<th>Date</th>
<th>HIV Test results/date</th>
<th>Hepatitis C testing results/date</th>
<th>HBs AG testing results/date</th>
<th>Initials of person documenting</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 weeks</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 months</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 months</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Decision about PEP: Eligible     not eligible (reason): ____________________________
Declined by HCW  ____________________________
    Date, time initials of HCW

PEP regimen: Atripla     Truvada/Raltegravir
Other, describe: ____________________________ Not applicable

Updated  October 2013
Remarks:

________________________________________

________________________________________

________________________________________

________________________________________

________________________________________

________________________________________

________________________________________

(date: dd/mm/yy)  Signature and name of counselor:
APPENDIX 9: MAP

1. Overview of Gab

Pilane Court

ICC Flats

Botswana-UPenn Office on Independence Ave

Princess Marina

National Laboratory
APPENDIX 10: IPMS (Integrated Patient Management System)
IPMS is the electronic medical record/labwork ordering system that they are trying to launch at PMH. It was used previously but fell out of favor because of systems issues. The government is now trying to implement an electronic medical record, and this is the first phase.

Getting a username/password
- To get an IPMS username/login, you’ll need a form (that you can get at the IT department if the previous resident doesn’t give you one) which needs to be signed by Mrs. Khulumane (head nurse in the outpatient department) or the hospital superintendant. Nurse Beauty Mobita has filled in and signed some as well. Bring the completed sheet to the IT department which is now in the Dental Building on the 2nd floor. Ralph in that office can help. This can be done on the first orientation day after getting paper filled out at the Ministry of Health.

USING IPMS:
To access IPMS, click on the desktop icon.

For ordering Tests
- Choose “Live screen” (not training)
- Click on Applications
- Choose Order Entry
- Use the patients PA number if inpatient PM number if an outpatient (If it says PM00123456/98765 do not include the zeros at the start and use only the numbers before the forward slash, the other numbers are the patient’s ID or “Omang” number which is not relevant to the IMPS system)
- Under “order doctor” enter your user name
- Click category and choose the appropriate category:
  - For microbiology (urinalysis, bacterial culture), use MIC
  - For hematology or chemical pathology use LAB
- To navigate around the screen, use the enter button
- Once in category, navigate to the procedure box and enter the code of the test you’d like to order. Here are some commonly used derm tests:
  - Under MIC
    - MURMC (for urinalysis)
  - Under LAB:
    - HFBC (For CBC)
    - CLFT (Liver function test)
    - CRFT (Renal function test)
    - SRPR (For syphilis)
    - SAG6PD (For G6PD)
    - SAANA (For ANA)
    - SCHCV (For HepC)
    - HCHCB (For HepB)
    - HESR (For ESR)
    - SCHIVR (For rapid HIV test....note, this test requires that you input more patient info)
- If you want to order a test but don’t know it’s code or if you want to browse available tests, navigate to the procedure box and use the F9 button

For reviewing test results
- Click review
- Process desktop
- Process by Patient
- Enter patient information

Ordering Tests On Paper
National Lab
Keep in mind that although PMH is trying to implement an electronic system, the National Laboratory is not a part of PMH. They have their own computer system, phone system etc. Therefore, for any tests that you bring to the national lab (fungal cultures and H+E will still require paper forms).

If IPMS is down (or at outreach)
Please note that each test requires a separate form

- Heme path: for FBC (CBC)
- Microbiology: bacterial cultures, fungal cultures, urinalysis
- Tissue culture: for H+E (in the box, under investigations required write H+E)
- Chem path: everything else (LFT, RFT, ANA, HIV, RPR, HepC/B etc)

**Accessioning Tests**

**Blood/urine tests**

Give the form to the patient. They will go get the tests themselves. Instruct them to bring the results to the next visit.

**Bacterial cultures**

Bring the form to the Main Lab. They will give you an accession number (they write it on the sheet). Write that number in the biopsy book. Bring the (labeled) sample and the form to the microbiology lab. You will leave both with them and sign their sample reception book.

- Note: with IPMS, you do not need to go to the Main Lab to get an accession number. You should simply drop off your (labeled) sample to the microbiology lab.

**Fungal cultures**

Bring the form and labeled sample to the National Lab. Go to the second floor, and turn left, the fungal culture room is through the double doors on your right. Give them the sample and the form and write down the accession number in the biopsy book (it should start with MYC).

**Pathology specimens**

Bring the form and labeled sample to the National Lab. Go to the second floor, and turn right, and then go through the double doors on your right.

- Sign the specimen reception book
- Hand the tech at the computer the forms and the labeled formalin bottles. They will enter the info into the computer and print you a sticker. Take the sticker and put it into the biopsy book.

- Note: all skin samples should be labeled urgent.
**APPENDIX 11: PMH Drug formulary**

**Drugs by Category**

**Analgesics**
- Morphine 10, 30mg tablet
- Aspirin 300mg
- Ibuprofen 400mg tablet
- Indomethacin 25mg capsule
- Naproxen 250mg tablet
- Paracetamol 100, 500mg tablet
- Paracetamol 24mg/ml syrup
- Gabapentin

**Antibiotics Oral**
- Amoxicillin 250mg tablet
- Amoxicillin 125/5ml suspension
- Amoxicillin + Clavulanic (250 + 125)mg tablet
- Amoxicillin + Clavulanic (25 + 6.25) mg/ml suspension
- Cefradine (first generation) 250mg capsule
- Ciprofloxacin 250mg tablet (usually used for drug resistant TB)
- Cloxacillin 250 mg capsule, 125mg/5ml susp
- Co-trimoxazole (400 + 80) mg tablet (TMP-SMX)
- Co-trimoxazole (200 + 40 mg/5ml) suspension
- Doxycycline 100mg tablet
- Dapsone 100mg tablet
- Erythromycin 250mg tablet
- Erythromycin 125/5ml suspension
- Penicillin phenoxymethyl 250mg tablet
- Penicillin Benzathine 2.4 million IU injection
- Rifampin 150mg tablet
- Rifampin 100mg/5ml syrup

**Antibiotics Topical**
- Benzoyl peroxide gel 10%, 5%
- Benzoil peroxide wash 5%, 10%
- Benzoyl peroxide cream 5%
- Benzoic acid comp ointment
- Chlorhexidine 1% cream
- Gentian Violet
- Polymixin-bacitran-neomycin ointment
- Povidine iodine ointment
- Silver sulphadiazine 1% cream
- Sulphur 10% ointment
- Bactroban*OTC
- Dettol antiseptic cream*OTC

**Antibiotics Ophthalmological**
- Chloramphenicol eye gtt
- Gentamycin eye gtt
- Neomycin-gramicidin-polymixin eye gtt or ointment
- Tetracycline eye ointment

**Antibiotic Washes**
- Chlorhexidine 20%, 4% solution
- Hydrogen peroxide 3% solution
- Providone iodine 10% solution

**Antifungals Oral**
- Fluconazole 50, 200mg tablets
- Fluconazole 50mg/ml suspension
- Griseofulvin 125, 500mg tablet
- Griseofulvin suspension
- Ketoconazole 200mg tablet
- Nystatin 100,000IU/ml mixture

**Antifungals Topical**
- Benzoic acid comp. ointment
- Clotrimazole 1% cream
- Miconazole oral gel
- Selenium sulfide 2.5% shampoo
- Whitfield's ointment (Benzoic acid comp, ointment and salicylic acid)
- Zinc undecenoate 10% powder
- Lamisil 1% cream*OTC
**Antidepressants**
Amitriptyline 25mg, 50mg tablet
Imipramine 25mg tablet
Fluoxetine 20mg tablet

**Antihistamines**
Chlorpheniramine (Allergix) 4mg tablet
Chlorpheniramine (Allergix) 0.4mg/ml syrup
Loratidine 10mg (OTC only)
Omeprazole 20mg tablet
Ranitidine 150mg tablet

**Antimalarials**
Chloroquine 150mg tablet
Chloroquine 50mg/5ml base syrup
Mefloquine 250mg tablet

**Antipruritics**
Calamine 4% cream, 15% lotion
Camphor menthol products*OTC
Chlorpheniramine 4mg tablet
Chlorpheniramine 0.4mg/ml syrup
Loratidine 10mg (OTC only)
Amitriptyline 25mg, 50mg tablet
Imipramine 25mg tablet
Gabapentin

**Antiviral**
Acyclovir 200mg tablet
Acyclovir eye ointment (keratitis)
Imiquimod 5% cream (special order)

**Bisphosphonates**
Alendronate 10 mg tablet
(can order 3 tabs weekly)

**Corticosteroids**
Betamethasone 0.1% cream, ointment
Hydrocortisone 1% cream, ointment
Hydrocortisone 5mg/g lotion
Prednisone 1mg, 5mg tablet
Prednisolone 5mg tablet
Prednisolone Syrup
Triamcinolone 25mg/ml injection
Methylprednisolone 80mg/ml injection
Dexamethasone 4mg/ml injection
Dexamethasone 0.5mg tablet
Kenalog in orabase*

**Anxiolytics**
Diazepam 2mg, 5mg tablet
Nitrazepam 5mg tablet
Temazepam 10mg tablet

**Hormonal Therapy**
Levonorgestrel + ethinyloestradiol( 0.15 + 0.03) mg tablet (Seasonale)
Northisterone + mestradol (1+ 0.05) mg tablet (Norinyl)
Oestrogen vaginal cream
Spironolactone 25 mg tablet

**Antineoplastic and Immunosuppressive Drugs**
? Cyclosporine 100mg tablet
Methotrexate 2.5mg tablet, 25mg/ml injection
Imiquimod 5% cream (special order)

**Keratolytics**
Salicylic acid powder
Salicylic acid ointment 5%, 10%, 20%
Urea 10% (OTC)

**Ophthalmology**
Acyclovir eye ointment
Gentamycin eye ointment
Fluoromethalone + neomycin (1 + 5) mg eye drops
Hydrocortisone eye ointment
Neomycin-gramicidin-polymixin eye ointment/drops
Tetracycline eye ointment
Polyvinyl alcohol 1.4% (artificial tears) eye drops
Prednisolone 0.12% eye drops
Prednisolone 1% eye drops
Zinc Sulphate eye drops

**Retinoids**
Isotretinoin (Roaccutane) 20mg
Tretinoin 0.025% cream*
Scabicides
Benzyl benzoate 25% application
?Sulfur preparation (2.5-10%)
Gamma benzene hexachloride 1% lotion

Miscellaneous
Allopurinol 100mg tablet
Coal tar 2g/100g gel
Coal tar ointment BPC 1934
Colchicine 0.5mg tablet
Dithranol (Anthralin) 2% ointment
Hydroquinone 2%, 4%*
Nicotinamide 50 mg daily
Methylene Blue (methylthionium chloride 10mg/ml) injection
Paraffin gauze 100x100nm
Podophyllin 20% ointment
Promethazine 10, 25mg tablet
Promethazine 25mg/ml injection
Silver nitrate pencil
Sitz bath, KMNO4 soaks
Titanium dioxide based sunscreen lotion SPF 30

Moisturizers (OTC)
Aqueous cream
Aqueous cream 500g mixed with 50ml glycerin
Saran moisturizer
Cetaphil
Vaseline

Mild Soaps
Sunlight Gentle, Dettol Sensitive, Orchard
Lux (variety of moisturizing)
Dove (very expensive)

*Patient has to purchase; needs special order form.

Drugs by Disease

Acne vulgaris, topical
Benzoyl peroxide gel 5%, 10%
Benzoyl peroxide wash 5%, 10%
Benzoyl peroxide cream 5%
Salicylic acid cream, gel 5%, 10%
Sulphur 10% ointment
Tretinoin 0.025% cream*
Erythromycin solution (125/5ml)
Can use locally if needed
ILTAC (if available in clinic)
Tretinoin 0.025% cream*

Acne vulgaris, oral
Doxycycline 100mg tablet
Erythromycin 250mg tablet
Amoxicillin 250mg tablet
Isotretinoin (Roaccutane) 20mg tablet

Acne vulgaris, hormonal
Levonorgestrel + ethinyloestradiol( 0.15 + 0.03) mg tablet (Seasonale)
Northisterone + mestradol ( 1+ 0.05) mg tablet (Norinyl)
Spironolactone 25 mg tablet

Actinic keratoses (esp OCA pts)
Imiquimid 5% cream (special order)
Podophyllin 20% start TIW
Tretinoin 0.025% cream*

Alopecia Areata
Betamethasone 0.1% cream, ointment
Intralesional kenalog
Anthralin 2% ointment
- Start 0.5% for 5-10 min
- Inc to 2% for 30 min gradually over 2-3 weeks

Aphthous stomatitis
Gentian violet 0.5% TID
2% lignocaine gel
0.2% chlorhexidine mouth rinse 3-4 times daily
Dapsone or colchicine
Acyclovir if persistent
Atopic Dermatitis, topical
Hydrocortisone 1% cream, ointment
Betamethasone 0.1% cream, ointment
    (compound with Vaseline or aqueous cream)
Aqueous cream, vaseline
Antipruritics
Wet pajamas
Bleach baths (10 mL bleach per 10 L of water)
Betadine scrub (1-2 gtt in tub)
Ambient sunlight

Atopic Dermatitis, systemic
Allergix (4 mg tab, 2 mg/5ml soln)
    4 mo-1 yr: 2.5 ml qhs
    1-5 yo: 5 ml qhs
    5-12 yo: 7.5-10 ml qhs
    Adult: 4 mg BD-TID
Amitriptyline 25mg qhs
Imipramine 25mg qhs
Cyclosporine 3-5 mg/kg/d

Bacillary Angiomatosis (r/o bone, LN dis)
Doxy 100 BD x 8 wks (skin dis)
Erythromycin 500mg QID x 8 wks (skin dis)

Bullous Pemphigoid
Nicotinamide 50 mg
    500mg-2gm suggested daily dose
Doxycycline 100 mg daily-BD
Prednisone
Methotrexate
Cyclosporine 3-5 mg/kg/d

Candidiasis
Clotrimazole 1% cream
Miconazole oral gel, ? powder
Selenium sulfide 2.5% shampoo
Whitfield’s ointment (Benzaic acid comp, ointment and salicylic acid)
Gentian violet 5%
    to oral mucosa or nail fold TID
Fluconazole 200mg tablets, 50 mg/5 ml susp
    200 mg daily x 7 d
    > 6 mos: 6 mg/kg/d
Fluconazole 50mg/ml suspension
Griseofulvin 125, 500mg tablet
Griseofulvin suspension
Ketoconazole 200mg tablet
Adults: 200-400mg daily x 7d
Kids >2 yo: 3.3-6.6 mg/kg/d
Extensive course for mucocutaneous disease
Nystatin suspension 100,000IU/ml
    Rinse and swallow 2.5 ml 4-5 times daily

Connective Tissue Disease
Prednisone
Methotrexate
Penicillamine
Cyclosporine (caution)
Chloroquine 150mg tablet
Mefloquine 250mg tablet
Antipruritic agents
Topical steroids
Intralesional steroids
SPF 30

Herpes Simplex
Acyclovir 200mg tablet
    Herpes simplex, 1st episode: 400mg PO TID x 7-10 days
    Herpes simplex, recurrent: 400mg PO TID x 5 days
    Oral herpes, suppression: 400mg PO BID
    Genital herpes, 1st episode: 200mg PO 5 times a day for 10 days
    Genital herpes, recurrent: 200mg PO 5 times a day for 5 days
    Genital herpes, suppression: 400mg PO BID
    HSV infections: 5mg/kg IV every 8 hours for 7d
    HSV encephalitis: 10mg/kg IV every 8 hours for 10days
    (for immunocompromised)
Renal dosing for IV route. CrCl 25-50: q12h; CrCl 10-24:
    q24h; CrCl<10: q24h, decrease dose by 50%; HD: usual dose as supplement.
Gentian violet *
**Herpes Zoster**

Herpes zoster, localized: 800 mg PO 5 times a day for 7-10d (initiate within 48 hours of onset)

Herpes zoster, disseminated: 5-10mg/kg IV every 8 hrs for 7-10d

Varicella, acute: 800mg PO 4 times a day for 5 days

*Renal dosing for IV route, CrCl 25-50: q12h; CrCl 10-24: q24h; CrCl<10: q24h, decrease dose by 50%; HD: usual dose as supplement.*

Gentian violet *

**Herpes Zoster neuralgia**

Paracetamol 500mg-1gm q4-6 hrs prn

ASA 300-900mg q4-6 hrs

Morphine 10, 30mg tablet

Amitriptyline 25mg, 50mg tablet

Imipramine 25mg tablet

Gabapentin

**Intertrigo**

Zinc undecenoate 10% powder

Cornstarch

**Leprosy (WHO): REFER ALL PATIENTS TO TB CLINIC FOR TREATMENT**

Dapsone 100mg tablet

Rifampin 150 mg tab, 100mg/5ml syrup

**Leprosy, Paucibacillary (6 mos)**

   Adult: Dapsone 100mg daily, Rifampin 600mg/mo
   Child (10-14kg): Dapsone 50 mg daily, Rifampin 450 mg/mo
   Child (<10kg): Dapsone 2 mg/kg daily, Rifampin 10 mg/kg/mo

**Leprosy, Multibacillary (12 mos)**

   Adult: Dapsone 100mg daily, Clofazamine 50 mg daily, Rifampin 600 mg/mo, clofazamine 300 mg/mo
   Child (10-14 kg): Dapsone 50 mg daily, Clofazamine 50 mg q.o.d, Rifampin 450 mg/mo, clofazamine 150 mg/mo
   Child (<10kg): Dapsone 2 mg/kg daily, Rifampin 10 mg/kg/mo, clofazamine 1 mg/kg/d and 6 mg/kg/mo

**Melasma**

   SPF 30
   Hydroquinone 2%, 4%*

**Mycetoma**

   Fungal and bacterial culture to determine Eumycetoma
   Surgical debulking
   Ketoconazole 200-400mg daily x mos-yr
   Poor response to griseofulvin

**Actinomycetoma**

   Co-trimoxazole (400 + 80) mg tablet BID
   Rifampin, tetracyclines, fluoroquinolones

**Photodermatitis**

   r/o pellagra
   SPF 30
   Stop agent if possible
   Tetracyclines, NSAIDs, ethambutol, ARVs
   Topical steroids
   Antihistamines

**Pruritus**

   (consider CBC with diff, LFTs, Bun/Cr, HIV, stool for O&P, CXR)
   Camphor lotion*
   Chlorpheniramine 4mg tablet
   Chlorpheniramine 0.4mg/ml syrup
   Loratidine 10mg (OTC only)
   Amitriptyline 25mg, 50mg tablet
   Imipramine 25mg tablet
   Gabapentin

**Psoriasis, topical**

   Hydrocortisone 1% cream, lotion, oint
   Betamethasone 0.1% cream, lotion, oint
   Coal tar 2g/100g gel, lotion, cream, oint
   Coal tar ointment BPC 1934
   Salicylic Acid (5,10,20%)
   Sunlight

**Psoriasis, systemic**

   Cyclosporine 3-5 mg/kg/d
   Methotrexate

**Pyodermas: impetigo, folliculitis, furunculosis**

**Antiseptic Washes**

   Benzoyl peroxide wash 5%, 10%
   Chlorhexidine 20%, 4% solution
   Hydrogen peroxide 3% solution
   Povidone iodine 10% solution, shampoo

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Updated October 2013
**Antibiotics Topical**
- Benzoyl peroxide gel 10%, 5%
- Erythromycin solution (small areas)
- Chlorhexidine 1% cream
- Polymixin-bacitracin-neomycin ointment
- Povidine iodine ointment
- Silver sulphadiazine 1% cream
- Sulphur 10% ointment
- Gentian violet *

**Antibiotics Oral**
- Amoxicillin 250mg tablet
- Amoxicillin 125/5ml suspension
- Amoxicillin + Clavulanic (250 + 125)mg tablet
- Amoxicillin + Clavulanic (25 + 6.25) mg/ml susp
- Cephradine (first generation) 250mg capsule
- Ciprofloxacin 250mg tablet (usually used for drug resistant TB)
- Cloxacillin 250 mg capsule, 125mg/5ml susp
  - <20 kg: 50-100 mg/kg/d in 4 divided doses x 7d
  - >20kg, adult: 250-500 mg QID x 7d
- Co-trimoxazole (400 + 80) mg tablet
- Co-trimoxazole (200 + 40 mg/ 5ml) suspension
- Dapsone 100mg tablet
- Doxycycline 100mg tablet
- Erythromycin 250mg tablet
- Erythromycin 125/5ml suspension
- Penicillin phenoxymethyl 250mg tablet
- Penicillin Benzathine 2.4 million IU injection
- Rifampin 150mg tablet

**Scabies**
- Benzyl benzoate 25% application
  - Dilute w/H2O, 1:1 for kids, 1:3 for infants
- ?Check if precipitated sulfur is available
  - 2.5% infants, 5% pregnant females
  - 10% everyone else
- Gamma benzene hexachloride 1% lotion
- Launder sheets, clothing etc

**Seborrheic Dermatitis**
- Selenium sulfide 2.5% shampoo
- ?Salicylic acid shampoo
- Clotrimazole cream
- Hydrocortisone 1% cream/ointment/lotion

**SJS/TEN**
- See below for supportive care
- IVF, watch lytes, signs of sepsis
- Chloramphenicol or gentamicin eye gtt
- Ophtho and GU consult prn

**Syphilis (secondary)**
- Benzathine benzyl PCN 2.4 MU IM weekly x 3 wk
- Erythromycin 500mg QID
- Doxy 100mg BD
- Treat partner

**Tinea Corporis/Cruris/Pedis, Topical**
- Whitfield’s ointment (Benoic acid comp, ointment and salicylic acid)
- Clotrimazole cream
- Miconazole (oral) gel, ?powder
- Selenium sulfide 2.5% shampoo
- Zinc undecenoate 10% powder
- Gentian Violet
- Betadine shampoo
- Salicylic acid for crusting
Tinea Corporis/Cruris/Pedis, Oral
(treat 2-4 wks extensive tinea, 4-6 wks for Majocchi’s)
Fluconazole 200mg tablets, 50mg/ml susp
  Adults: 100-200mg daily
  > 6 mos: 6 mg/kg/d
Griseofulvin 125, 500mg tablet, susp
  Adults: 500mg daily
  Kids: 15 mg/kg/d
Ketoconazole 200mg tablet
  Adults: 200-400mg daily
  Kids >2 yo: 3.3-6.6 mg/kg/d

Tinea capitis
Clotrimazole 1% cream
Benzoic acid comp. ointment
Selenium sulfide 2.5% shampoo
Whitfield's ointment (Benzoic acid comp, ointment and salicylic acid)
Griseofulvin 125, 500mg tablet, suspension
  20-30 mg/kg/d x 6-8 wks
For kerion, consider 1-2 wk course of prednisone

Tinea versicolor
2.5% selenium sulfide shampoo
Clotrimazole cream
Extensive/refractory
  Ketoconazole 400mg x 1, repeat in 1 wk
  Ketoconazole 200mg daily x 1 wk
  Fluconazole may also be used

Urticaria
Chlorpheniramine 4mg tablet
Chlorpheniramine 0.4mg/ml syrup
Loratidine 10mg (OTC only)
Omeprazole 20mg tablet
Ranitidine 150mg tablet

Vitiligo
Betamethasone 0.1% cream, ointment
Hydrocortisone 1% cream, ointment
Ambient sunlight

Warts
Salicylic acid 5, 10, 20%
Podophyllin 10, 20% ointment
Cantharidin (if in derm clinic)
Pumice stone/nail file
Aldara 5% cream (special order)

*Special Order Medications
Must complete Special Order Form located in skin clinic exam rooms.
Patient will turn form into pharmacy for hospital to approve drug.

Updated October 2013
APPENDIX 12: INPATIENT AND SYSTEMIC THERAPEUTICS CHEAT SHEET
(Adapted from the Harvard Dermatology Residency Program Handbook)

Drug Hypersensitivity Reactions
- Common causes of drug hypersensitivity (review by Michael Bigby Arch Derm, Vol 137(6), June 2001. 765-770.)
  - Most drug reactions occur ~1 week after therapy (antibiotics and allopurinol can induce rash 2 weeks after).
  - Rashes occur in 2-3% patients w/ taking an average of 8 or 9 differe (increased rate with more medication exposure).
- Check CBC c diff, LFTs, BUN/Cr to r/o DRESS (drug rash, eosinophilia, and systemic symptoms)
- Treat by stopping the offending agent, can treat with topical steroid and occasional oral steroids

<table>
<thead>
<tr>
<th>Medication</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amoxicillin</td>
<td>1.2-8.0</td>
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<tr>
<td>Bactrim</td>
<td>2.8-3.7</td>
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<tr>
<td>Semisynthetic PCN</td>
<td>2.9-4.0</td>
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<tr>
<td>Sulfonamides</td>
<td>2.5</td>
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<tr>
<td>RBCs</td>
<td>2.0</td>
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<tr>
<td>PCN G</td>
<td>1.6</td>
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<tr>
<td>Fluroquinolones</td>
<td>1.6</td>
</tr>
<tr>
<td>Cephalosporins</td>
<td>1.5</td>
</tr>
<tr>
<td>Gentamicin</td>
<td>1.0</td>
</tr>
<tr>
<td>NSAIDs</td>
<td>0.3-0.69</td>
</tr>
<tr>
<td>Tetracycline</td>
<td>0.5</td>
</tr>
<tr>
<td>Macrolides</td>
<td>0.3</td>
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</tbody>
</table>

Anticonvulsant Hypersensitivity Syndrome
- Triad of fever, skin rash, and internal organ involvement (agranulocytosis, hepatitis, nephritis, and myositis)
  - Usually occurs 2-8 weeks after initiating drug
- Due to inability to detoxify toxic arene oxide metabolites
- Cross-reactivity between phenytoin (Dilantin), phenobarbital, carbamezepine (Tegretol), and lamotrigine (Lamictal)
- Can usually change to levetiracetam (Keppra) or valproic acid (Depakote)

Stevens-Johnson Syndrome and Toxic Epidermal Necrolysis
- Definitions
  - SJS < 10% BSA involvement; SJS-TEN overlap 10-30% BSA; TEN > 30% BSA
- Possible Triggers
  - Most common medications: antibiotics (sulfonazmides > aminopenicillins, quinolones, cephalosporins, tetracyclines, imidazole antifungals), NSAIDs, anticonvulsants.
  - In HIV (+) pts, nevirapine is a common culprit. Anti-TB agents (esp INH/rifampin) have also been implicated
  - Infections more commonly cause SJS than TEN: viral (HSV), bacterial (M. pneumoniae), fungal.
- Examination
  - Pay attention to general appearance (fever, lethargy are bad signs), vital signs
  - Skin pain, extent (%BSA) of vesicles and bullae (including erythematous skin which may evolve to sloughing), mucosal involvement
  - Presence of Asboe-Hansen’s sign and Nikolsky’s sign.
- Management
  - Consider transfer to high level monitoring (next to nurses station) if >20% BSA involvement or if biopsy proven TEN is confirmed.
  - If there is a clear medication trigger, hold this. D/c all unnecessary medications.
  - For management of erosions, can recommend: paraffin embedded gauze, Bactigras (available in wards), Vaseline, or bacitracin to denuded areas, 2% lignocaine gel for oral erosions, IV/NG nutrition.
  - Recommend ophthalmology/genitourinary/ENT consultation for involved mucosal surfaces. Gentamicin or chloramphenicol ophthalmic oint. q2h.
  - Chlorhexidine mouth wash and body wash
  - Watch electrolytes, signs of sepsis
  - Systemic steroids are controversial (possible increased mortality).
Vasculitis
• Idiopathic in up to 50%
• Diagnoses (only a partial list):
  - Large vessel vasculitis: Giant cell arteritis, Takayasu’s arteritis
  - Medium sized vessel vasculitis: Classic PAN, Kawasaki
  - Small-vessel vasculitis (leukocytoclastic vasculitis or LCV)
    • Immune-complex mediated
      - Henoch-Schonlein purpura
      - Erythema Elevatum Diutinum
      - Acute Hemorrhagic Edema of Childhood
      - Urticarial vasculitis
      - Cryoglobulinemia
      - Cutaneous Small Vessel Vasculitis (diagnosis of exclusion)
    • ANCA-mediated
      - Wegener’s
      - Churg-Strauss
      - Microscopic polyangiitis
• Etiologies (only a partial list):
  - Drug-induced
    • antibiotics, allopurinol, thiazides, hydantoins, PTU, etc.
  - Connective-tissue diseases and other immune-complex mediated disease
    • RA, SLE, Sjogrens, CREST, IBD
  - Infection
    • Hepatitis B and C, strep, respiratory infections, HIV, CMV, mycobacterial, gonococcosis, and chronic meningococcosis
  - Malignancy
• Tests to consider (but order only as appropriate):
  - CBC & diff, BUN/Cr, UA, LFT’s, hep B and C, cryos, complement, ANA, dsDNA, RF, ANCA

Drugs in Pregnancy
A: Adequate studies in pregnant women have failed to show a risk to the fetus in the first trimester of pregnancy, and there is no evidence of risk in later trimesters.
B: Animal studies have not shown an adverse effect on the fetus, but there are no adequate clinical studies in pregnant women.
C: Animal studies have shown an adverse effect on the fetus, but there are no adequate studies in humans. The drug may be useful in pregnant women despite its potential risks.
D: There is evidence of risk to the human fetus, but the potential benefits of use in pregnant women may be acceptable despite potential risks.
X: Studies in animals or humans show fetal abnormalities, or adverse reaction reports indicate evidence of fetal risk. The risks involved clearly outweigh potential benefits.

Categories of commonly prescribed medications in Dermatology:

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>X</th>
</tr>
</thead>
<tbody>
<tr>
<td>Folic acid</td>
<td>Penicillin</td>
<td>Fluconazole</td>
<td>ASA</td>
<td>Accutrin</td>
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<tr>
<td>Levo-thyroxine</td>
<td>Azeleic acid</td>
<td>Itraconazole</td>
<td>Bleomycin</td>
<td>Stanozolol</td>
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<tr>
<td>Levo-thyroxine</td>
<td>Cephalosporins</td>
<td>Ketoconazole</td>
<td>Azathioprine</td>
<td>Isotretinoin</td>
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<tr>
<td>Levo-thyroxine</td>
<td>Permethrin</td>
<td>Cyclosporine</td>
<td>Penicillamine</td>
<td>Estrogens</td>
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<tr>
<td>Lidocaine</td>
<td>Doxepin</td>
<td>Colchicine</td>
<td>Bexarotene</td>
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<tr>
<td>Cyproheptadine</td>
<td>Hydroxyzine</td>
<td>Potassium Iodide</td>
<td>Finasteride</td>
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<tr>
<td>Diphenhydramine</td>
<td>Efalizumab</td>
<td>Spironolactone</td>
<td>Tazarotene</td>
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<tr>
<td>Dimeshydrinate</td>
<td>Oral steroids</td>
<td>Cyclophosphamide</td>
<td>Thalidomide</td>
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<tr>
<td>*Erythromycin</td>
<td>†Quinolones</td>
<td>Tetracycline</td>
<td>Methotrexate</td>
<td></td>
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<tr>
<td>Etanercept</td>
<td>†Bactrim</td>
<td>Hydroxyurea</td>
<td>5-FU</td>
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<tr>
<td>Alefacept</td>
<td>†Griseofulvin</td>
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<tr>
<td>Infliximab</td>
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<tr>
<td>Adalimumab</td>
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<tr>
<td>Topicals</td>
<td>Steroids</td>
<td>Tretinoin</td>
<td>Adapalene</td>
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<td></td>
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<td></td>
<td>Benzoyl</td>
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<td>Peroxide</td>
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* not estolate form
† careful use: likely should treat as category D
Dermatomes

**Dermatomes Associated with CD4 count:**

1) CD4 >500: VZV/HSV

2) CD4 200-400: Candidiasis, dermatophytosis, oral hairy leukoplakia, VZV, seborrheic dermatitis

3) CD4<200: HSV>1 month, CMV, KS, Atypical mycobacteria, histoplasmosis, cryptococcus, drug reactions, pruritic papular eruption of HIV, eosinophilic folliculitis, papular urticaria
Roaccutane

- **Consider baseline Mechanism**
  - Retinoids are structural and functional analogues of vitamin A. Retinoids normalize keratinization, inhibit sebum production, and decrease inflammation by affecting ornithine decarboxylase.
- **Dosage**
  - 0.5-2.0 mg/kg/day PO divided BID, given with food for 15 to 20 weeks.
  - Tablets are supplied in 20 mg tablets. May repeat treatment course after being off for 2 months.
- **Baseline Examination**:
  - Identify those patients at increased risk for toxicity or adverse effects.
  - Document concomitant medications that may interact with retinoids.
  - 2 negative urine/serum pregnancy tests prior to initial Rx
  - 1 negative urine/serum pregnancy test for further Rx course
- **Required Monthly Laboratory testing**
- **Other Required Laboratory Tests (Check monthly for first 3-6 months, then every 3 months)**
  - CBC with platelets.
  - Liver function tests (AST, ALT, alk phos, bilirubin).
  - Fasting lipid profile during fasting (total cholesterol, LDL, HDL, and TG’s).
  - Renal function tests (have a h/o cataracts or retinopathy)
  - Follow-up Examinations BUN and creatinine.
- **Special Tests**
  - x-rays of wrists, ankles or thoracic spine if long term retinoid therapy
- **Consider ophtho exam if patients**
  - Clinical evaluation monthly for first 3-6 months, then every 3 months
  - Assessment of patient response, improvement, and complaints of adverse effects (dry skin, depression, headache, visual changes, bone pain, hearing loss, GI problems)

Chloroquine

- **Mechanism**
  - Proposed mechanisms include binding to DNA and interfering with parasitic veseicle functions, inhibiting phospholipids metabolism, inhibiting plasmodial erythrocyte stage, and exerting antirheumatic/immunosuppressive effects.
- **Dosage**
  - Maximum: 150 mg po BID
- **Baseline Examination**:
  - Ocular
    - Baseline slit-lamp and fundoscopy examination, assessment of visual acuity
    - Visual field testing by both static and kinetic techniques with 3-mm red test object.
  - Laboratory Testing
    - Complete blood count
    - G6PD screening.
    - Chemistry profile including liver function tests.
- **Follow-up Examination**:
  - Ocular
    - Review subjective visual complaints
    - Repeat visual field testing if reading difficult for patient.
  - Laboratory Testing (monthly for 3 months, then q 4-6 mos)
    - CBC
    - Chemistry profile

Dapsone

- **Mechanism**
  - Inhibits myeloperoxidase in neutrophils, thereby inhibiting neutrophil respiratory burst.
- **Dosage**
  - 50-100 mg po daily. Tablets supplied in 100 mg.
- **Baseline History/Examination**:
  - Complete H&P with emphasis on cardiopulmonary, GI, neurologic, and renal systems
- **Initial Laboratory Testing**:
  - CBC w/ differential
  - LFTs
  - Renal function tests
  - Urinalysis
  - G6PD (especially for patients of African-American, Asian Pacific, Middle Eastern descent)
- **Follow-up Examination/Labs**:
  - History and Examination
    - Each visit reassess peripheral motor neurologic exam
    - Each visit assess for signs and symptoms of methemoglobinemia
    - Question for any other adverse effect
  - Follow-up Laboratory Tests
    - CBC w/diff every week x 4 weeks, then every 2 weeks for 8 weeks, then every 3-4 months.
    - Reticulocyte count as needed to assess response to dapsone hemolysis
    - LFT’s initially monthly, then every 3-4 months
    - Renal function tests and urinalysis every 3-4 months (especially for patients on sulfapyridine)
    - Methemoglobin levels as clinically indicated.
    - Protection against hemolytic anemia and methemoglobinemia can be afforded by Vitamin E 800 IU/day.

Systemic Steroids

- **Mechanism**
  - Binds to glucocorticoid receptors in the cytoplasm, which leads to release of heat-shock protein and subsequent nuclear translocation of the glucocorticoid receptor complex. This leads to downstream molecular events (including inhibition of NF kappa B), which results in decreased inflammation.
- **Dosage**
  - 1 mg/kg/day of prednisone for most inflammatory illnesses as indicated.
- **Baseline History/Examination**:
  - Blood pressure, weight
  - Height and weight for children
  - Ophthalmologic exam for cataracts
- **Initial Laboratory Testing**:
  - To screening (strongly consider)
  - Fasting glucose and triglycerides; potassium level
  - Bone density scan
  - Consider bisphosphonate & calcium replacement
- **Follow-up Examination/Labs**:
  - History and Examination
    - At 1 month, then every 2-3 months
    - Blood pressure, weight
    - Height and weight for children
    - Thorough history for adverse events (proximal muscle weakness, GI upset, CNS, infectious, ocular)
  - Follow-up Laboratory Tests
    - At 1 month, then every 3-4 months
    - Potassium levels
    - Glucose levels (fasting)
    - Triglycerides (fasting)
    - AM cortisol level (near time of cessation of long-term pharmacologic dose of CS therapy)

Updated October 2013
**Cyclosporine**

- **Mechanism**
  - Affects T lymphocytes, primarily via inhibition of calcineurin, which results in subsequent downregulation of NFAT

- **Dosage**
  - Psoriasis: 2.5-4.0mg/kg/day in 2 divided doses
  - Pyoderma Gangrenosum: 3-5mg/kg/day in 2 divided doses

- **Baseline History/Examination:**
  - Complete history and physical (to rule out infection, tumor)
  - At least two baseline blood pressures

- **Initial Laboratory Testing:**
  - At least two baseline serum creatinine levels
  - Other baseline renal function (BUN/Cr, urinalysis with micro examination)
  - CBC and LFTs
  - Fasting lipid profile (triglycerides, total cholesterol, HDL)
  - Other laboratory tests: Mg (may decrease), potassium (may increase), uric acid (for those with history of gout)

- **Follow-up Examination/Labs:**
  - Evaluate patient every 2 weeks for 1-2 months, then monthly
  - History and Examination
    - Blood pressure at each visit
  - Follow-up Laboratory Tests
    - Renal function (BUN/Cr, U/A): Adjustment in the CsA dosage should be made when there is a 25% increase from the baseline creatinine.
    - CBC and LFT’s
    - Fasting lipid profile (can do at alternating visits)
    - Other lab tests: Mg, K, uric acid

- **Indicated infrequently on selected patients:**
  - Serum CsA level, creatinine clearance (if > 6 months therapy), rarely kidney biopsy

**Methotrexate**

- **Mechanism**
  - Irreversibly blocks dihydrofolate reductase

- **Dosage**
  - 7.5 – 25mg PO taken once weekly. Dose may split into multiple doses of 24 hours for increased tolerability
  - Supplied in 2.5mg tabs. Also available IM and liquid form

- **Baseline History/Examination:**
  - Identification of patients at increased risk for toxicity (liver disease, alcoholism)
  - Recording concomitant medications that may interfere with MTX

- **Initial Laboratory Testing:**
  - CBC and platelet count
  - LFTs
  - Serologic tests for Hep A, B, and C
  - Renal function (BUN/Cr)

- **Follow-up Labs:**
  - **Optimal timing for lab tests is 5-6 days after preceding methotrexate dose. Labs weekly for 2-4 weeks. Gradually decrease frequency to every 3-4 months long term**
    - CBC and plt count, LFTs
    - Renal function (once or twice yearly to adjust dose)
    - History and Examination
  - **Liver biopsy:**
    - After every 1.5-2.0 gm total dose for low risk patients.
    - After every 1.0 gm dose for higher risk patients.
    - May be able to use type III procollagen peptide (PIIINP) in the future for monitoring (currently in use in Europe)
i BAIS III, 2008.
ii HIV Care and Support Program, Botswana UPenn Partnership