Patient Safety in Dermatologic Surgery
DISCLOSURE OF RELEVANT RELATIONSHIPS WITH INDUSTRY

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NO DISCLOSURES
WE WANT YOU!

To consider patient safety issues
Review personal practices
Incorporate new approaches
In 2000, Institute of Medicine published

To Err Is Human: Building a Safer Health System

Claimed 44,000 - 98,000 patients die annually from medical errors in U.S. hospitals

Public and medical profession took notice

With increasing technology and cost containment, more complex care provided in outpatient settings.

As dermatologists we are aware of this.

Growing number of studies specifically designed to assess extent and impact of errors in dermatology.
Wrong Site Surgery
Wrong Site Surgery

JCAHO 2004 Universal Protocol for preventing wrong site, wrong procedure, wrong person surgery

1. Pre op site verification

2. Visible marking of site

3. “Time out” before starting procedure

Over past 21 years have remained low and constant (86-123/year)

However, payment amounts are **escalating**

Most common diagnoses in malpractice claims against dermatologists 1985-2006

Malignant neoplasms

Acne dyschromia

Psoriasis

Malignant melanoma

Perlis 2006 - 11% 300 US Mohs surgeons reported medical lawsuits brought against them

Wrong-site surgery one of most frequent causes, accounting for 14% lawsuits

Various studies confirm MD and patient assessment result in wrong bx site id up to 12% by MDs and 30% by patients.

ACMS survey-89% mohs surgeons believed photo most useful resource to id bx sites.

However-30% derm residents never put bx photos in med records.

McGinness JL The value of preoperative biopsy-site photography for identifying cutaneous lesions. Dermatol Surg 2010;36:
Swary JH Practice gaps in patient safety among dermatology residents and their teachers: a survey study of dermatology residents. JAMA Dermatol 2014;150:738–42.
Photography should become the standard of care


Biopsy site selfies-a quality improvement pilot study to assist with correctly surgical site identification. Nijhawan RI et al. Dermatol Surg Apr (4) 499-504


1. 45 y male with bx proven 1.2cm BCC R cheek. Using pre-biopsy site photo sent by referring MD, patient’s confirmation of site, and what clinically looks like a bx with residual BCC, your resident marks the site. On reviewing the pre-bx site photo of surgical site with resident and patient, you notice another adjacent potential bx site that seems more consistent with pre-bx site photo. However, patient is adamant you are pointing to wrong site. Which of the following is best source for identifying correct surgical site?

A. Patient ID of surgical site

B. Pathology report description of surgical site

C. Dermatology resident ID of surgical site

D. Family member ID of surgical site

E. Pre-biopsy site photograph of surgical site
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Use at least two patient identifiers when providing care, treatment, or services

Wrong-patient errors occur in all stages of diagnosis and treatment
ID the person for whom service or treatment is intended
Match service or treatment to that individual
Acceptable identifiers:
  – Individual’s name
  – Assigned ID number
  – Telephone number
  – Other person-specific identifier
Cook 2003 prospective evaluation 1052 Mohs pts with 1358 tumors

Complication incidence 1.64% mainly post-op bleeding

Kimyai-Asadi 2005 1540 hospital-based Mohs pts and 2397 office-based Mohs pts only 1 GI bleed due to NSAID

Cook JL A prospective evaluation of the incidence of complications 2003 associated with mohs micrographic surgery

Murad et al 2013 - prospective cohort study of 20,821 Mohs procedures at 23 centers

Minor post op complications - 0.72%
Adverse events - 0.02%
Only 4 needed hospitalization
No deaths/disability

Alam et al 2013 Adverse events associated with Mohs Micrographic surgery multicenter prospective cohort study of 20,821 cases at 23 centers JAMA Dermatol 2013;149(12):1378-1385
Most bleeding/wound healing complications occurred in those on anticoagulants.

MMS is safe with very low rate of adverse events, exceedingly low rate of serious adverse events, undetectable mortality.
Lopiccolo 2012 65% 188 mohs surgeons reported at least 1 exposure injury to surgical/ lab staff in past year

4.8% exposed to pt with known hepatitis/HIV

Futuoryan 2.3% of 1047 Mohs cases had infectious complications

- MMS is “clean-contaminated” (occ breaks in aseptic technique)-expect 5-15%

More consistent with “clean” procedures where 1-3% infection rate is acceptable

MOHS SURGERY-STERILE VS NONSTERILE GLOVES

- No of prospective and randomized controls have compared infection rates using sterile vs nonsterile gloves in cutaneous surgery and found **no** statistically significant difference


El-Gamal 2001 surveyed 166 MMS members
complication rate of 0.8 cases/100 years of surgical practice

Top 3 complications:
icc skipped beats (8)
reprogramming of a pacemaker (6)
firing of ICD (4)

Electrosurgery in derm setting is safe, with no sig morbidity or mortality in literature or their survey

2. 65 y female with biopsy-proven BCC left chest presents for Mohs surgery. The 3 cm tumor is adjacent to patient's pacemaker. Unfortunately, clinic does not have bipolar electrosurgery device. Which modality minimizes electrical interference with ICDs (implantable cardioverter-defibrillator) and pacemakers?

A. Electrosection
B. Electrocautery
C. Electrodessication
D. Electrofulguration
E. Electrocoagulation
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Electrical interference can result in pacemaker or defibrillator malfunction.

**With electrocautery, there is no transfer of electrical current.** Current transfer is greatest with electrosection and electrocoagulation, where high amp current passes through patient to grounding plate.
Murad et al surveyed 437 derm surgeons reported practice using 1% lidocaine over 10 business days.

Found a mean of 3.44 ml (SD:2.97) lidocaine used per skin cancer excision and maximum 6.54 ml (SD 4.23)

Mean of 11.70 ml (SD:10.14) per reconstruction and max 15.85 ml (SD 10.39)

No cases lidocaine toxicity

Incidence adverse events 0.15% - dizziness, drowsiness, light headedness

Lidocaine is safer than conscious sedation or general anesthesia
Goldberg et al 2009 lidocaine with epi is safe on the digits

Morganroth et al 2009 randomized, double blind study-1% lido with 1:100,000 epi provides =anesthesia to 0.5% lido with 1:200,000

Morganroth et al. A randomized, double-blind comparison of the total dose of 1% lidocaine with 1:100,000 epinephrine versus 0.5% lidocaine with 1:200,000 epinephrine required for effective local anesthesia during Mohs micrographic surgery for skin cancers. J Am Acad Dermatol. 2009;60(3):444-452.
Life expectancy following Mohs surgery in patients aged 90 years and older

214 patients aged 90 and older underwent Mohs surgery 1997-2006

All patients tolerated the procedures well

Median survival following surgery 36.9 mths

Tumor size/type, defect size, # stages, closure type, # comorbidities did not change survival

Delaney A et al 2013 Life expectancy following Mohs surgery in patients aged 90 years and Older Am Acad Dermatol 2013 Feb;68(2):296-300
Life expectancy following Mohs surgery in patients aged 90 years and older

No sig diff in survival based on comorbidities according to Charlson scores

Instantaneous mortality hazard highest 2-3 y following surgery; perioperative mortality not apparent
No health status or procedure-related effects upon mortality noted following Mohs surgery.

This growing section of popn can safely undergo Mohs, should not be relegated to less effective treatments through fear of affecting their survival

Delaney A et al 2013 Life expectancy following Mohs surgery in patients aged 90 years and Older Am Acad Dermatol 2013 Feb;68(2):296-300
Laboratory/Path Errors
Accurate specimen id a challenge in all hospitals

Mislabeled specimens can have devastating consequences for patients
Specimen Misidentification

Kim et al 2012 - standardized specimen labeling protocol at Duke in 2010

5 of 17 steps between decision to perform bx to transportation to path considered essential

Before implementation 5.79 errors/1000 cases, after 3.53 events/1000 (P=.028)

Before labelling container, pt gives name, dob

Before placing specimen in container, verify name and site on label

Provider visualizes tissue in container, initials label

Before stapling path form to specimen bag, staff verify provider initials on label, visualize specimen, verify match of name, med rec, site

Staff initial path form

Shake it UP!
Medication Reconciliation
3. 78 y vet self-referred for biopsy-proven BCC back. He spends extended periods of time in other states and has received medical care at several VA Clinics throughout US. Takes several meds but has neither med list nor bottles with him. Which of the following represents Joint Commission recommendations for med reconciliation?

A. Office must contact offices of all the patient’s prescribing MDs and perform a thorough, up-to-date med reconciliation before performing procedure.

B. If you do not change or add a prescription, med reconciliation is unnecessary for straightforward outpatient procedure.

C. Written information about a new prescription must be provided only if the new prescription is intended for a period of > 14 days.

D. You should cancel appointment and reschedule when patient has obtained a complete and current med list.

E. Your office must inform the patient about the importance of maintaining updated med information.
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Office-Based Surgery Patient Safety Goal: Improve Medication Reconciliation

Joint Commission recognizes a good faith effort to collect the information as meeting the intent of the requirement. No specific stipulations such as delaying or rescheduling a procedure are outlined by the Joint Commission (Answers A and D). Med reconciliation should strive to obtain updated, accurate information on meds (name, dose, route, frequency, purpose) for all patients even if no prescriptions are added or changed (Answer B). Written information should be provided to patient on meds they should be taking at end of episode of care. If additional meds prescribed are for short term use, med information provided may include only those medications (Answer C). Organizations must inform patient about importance of maintaining updated med information (Answer E).

http://www.jointcommission.org/standards_information/npsgs.aspx
Bar Code Technology

- Increased speed and accuracy of data entry
- Used for patient id
- Used to track patients, slides, chemicals, biological agents in hospitals
Snyder et al 2010 approx 1 in 84,000 bar code scanning events generate incorrect patient identifier

Errors have profound implications for patient care

Snyder MS et al Patient Misidentifications Caused by Errors in Standard Bar Code Technology
Clin Chem 2010 56:10;1554-60
Ultimately

Commitment to patient safety and quality improvement depends upon personal and professional responsibility
To err is human;
to forgive, divine.

-- Alexander Pope
(1688-1744)