Surgical Pearls

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Conflicts of Interest

• I have no conflicts of interest with regard to any products mentioned herein.

• “Time in the O.R.,” he said with a broad grin, “is not work; it’s play.”
BLOODY BIOPSIES.... NOT.
VARIATIONS ON A THEME
MORE VARIATIONS ON A THEME
IT’S A BLOODY BLOODY MORNING

Package changes and price changes frequent

• Small tubes that will cover an area the size of a quarter cost ~ $2 each on Amazon today.
**Wound Seal QR Powder**
- Can only be used on granulating wounds – cannot be buried.
- Made of “potassium ferrate and hydrophilic polymers”
- Simply pour on area involved and compress.

**Wound Seal Powder**
- Cheaper than a suture for a bx.
- Stays in place for a week.
- No infections yet except wounds with cartilage (1 in 20).
- Use it every day.
- On noses, encourages healing without contraction.

**Wound Seal QR Powder**
- Exothermic reaction. Feels warm through your glove.
- Creates a penetration proof seal.
- Functions as a dressing.
- Comes in non-sterile consumer and sterile professional versions.
  – All similar.

**BLOODY CHOICES**
Quick Clot  www.quikclot.com
• Quick Clot Kaolin impregnated gauze.
  –www.quikclot.com

Quick Clot
• Kaolin + blood immediately initiates the clotting process by activating Factor XII.
• Transformation of Factor XII, Factor XI and prekallikrein to their activated forms.
• Factor XII can activate prekallikrein even without kaolin, but kaolin presence markedly enhanced the rate of activation.
• Activation of both Factor XI and Factor XII leads to the rest of the coagulation cascade.

Quick Clot
• Remove painlessly.
• May be left in place for up to 24 hours.
• Cannot bury.
**Celox**

- CELOX contains a natural marine polymer, Chitosan.
  - Ground shrimp / prawn shells.

**Celox**

- Clotting not affected by anticoagulants.
- Lots of science on the WWW site at http://www.celoxmedical.com/?page=tinfo
- $\text{?}\$
- Not meant to be buried.
• The Rolls Royce product, sort of.
• Can be buried under a repair.

I say potato.

Microporous Polysaccharide Hemospheres (MPH®), Medafor's patented clotting technology derived from purified potato starch.
Arista AH - solanum tuberosum?

- Was cheap when known as Bleed-X but price went sky high when Uncle Sam discovered them.

BE EFFICIENT

Time is Money

- If you can close the surface with no tension and apply a maintenance free dressing that does not require suture removal, you save staff time and patient time.
- 5-0 or 6-0 plain gut.
- Hydrocolloid dressing (Duoderm or Restore)
- Waterproof cover (Opsite or Tegaderm)
Time is Money

- Change to procedure since early 2000s: paint suture line with gentian violet to suppress bacterial growth prior to Duoderm application.
- May leave in place 7-10-14 days.
- Peel off when you are done.
- Residual sutures not dissolved into Duoderm crack or flake away in a few days or come off with steristrips.

INTRAOP COMPRESSION
**Small Excisions on Big Bleeders**

- Chalazion and Snellen entropion clamps can be used to tamponade structures they grasp on both sides (nasal ala, lip, helix, tongue).
- A variety of “hemostatic rings” can be used to tamponade other parts of the body.
- The rings of a scissor, clamp or needle driver do well for small areas.

**Steel Rings**

- Ideal on the scalp and forehead where the skull allows easy compression.
- May be used elsewhere tolerates pressure.
- My favorite.
- A variety of sizes.
- Steel can be autoclaved.
  - Galvanized corrode quickly.
Even compression all around a lesion stops blood flow to the area.

**New Paradigm on Closures**

- Cal Derm 2012.
- Dick Bennett gave a great closure pearls talk.

**New Paradigm on Closures**

- Vertical Mattress vs Layered/Complex Repairs.
- Split wounds with half being closed with VM sutures and half in L/C.
- VMs spread less and looked better.
New Paradigm on Closures

- I have shifted a lot of closures to this and found it does work.
- Using nylon or prolene.
- Saves time.
- Loses separate repair code.

To Run or Not To Run

- Faster than interrupted sutures.
- Not as strong as an interrupted stitch.
- Be cautious when it is the sole means of wound closure.
- Beware wounds under moderate or significant tension.
- Running loops of suture could be pulled tightly and strangulate the vascular plexus.
**To Run or Not To Run**

- When used appropriately offer excellent cosmesis.

**To Lock or Not To Lock**

- Running locked surface sutures can stop most bleeding from oozing wound edges.
- Don’t run, locked or not, on real long runs or very mobile areas. Stretching crushes tissue.

**To Lock or Not To Lock**

- Don’t Strangle Tissue
Monocryl

• Monofilament dissolvable.
• Durable and pricey.
• Low reactivity.
• Can be used buried.
• AND on the surface as a suture to be removed OR as a buried run.

DRESSINGS

Dressings

• A good dressing at surgery can save you from an ER trip 12 hours later.
• Compress not only the suture line.
• Include any areas of undermining or potential dead space.
• Also areas of loose connective into which blood can dissect.
  – Lids, neck, scrotum, hand.

• Bulky, awkward dressings discourage patients from doing things you told them not to do.
• Usually.
IF YOU’VE GOT THE HONEY, HONEY.

Manuka Honey
• http://www.honey.nz/content/page1/questions+and+answers.html#Q10 is one of the NZ based Manuka Honey sites with Q&A:
  • What is UMF Manuka honey?
  • “Manuka is a unique evergreen tree, native to New Zealand...
  • “intensely scented flowers bloom in summer and bees absolutely love them. ….

Manuka Honey
• “The Unique Manuka Factor (UMF) found only in selective Manuka honey describes the anti-bacterial property, sought after for its qualities that support health and wellbeing.
• “Independent laboratory testing determines the UMF value after the honey is packaged. The higher the level of UMF, the higher the level of anti-bacterial benefits.

Honey
• Apitherapy - treatment with natural honey.
• Manuka honey is the current “hot” (or “cool”) honey.
• A Medline search for “Manuka honey wound*” gets 97 hits with most in the past decade with 2 review articles.
• A Medline search for “honey wound*” gets 549 hits with most in the past decade with 113 review articles!
• Sweet ☺
Manuka Honey

- **What is the difference between ‘UMF’ & ‘Active’ Manuka Honey?**
- “Not all Manuka honey has UMF (Non peroxide) activity and we differentiate this by using the names UMF Manuka and Active Manuka Honey.
- “UMF Manuka Honey guarantees a Non Peroxide activity...

- **UMF is more stable over time, does not break down with heat, light or body enzymes and may even grow in strength over time.”**
- Stretch the science to fit the fancy?

Manuka Honey

- “This in turn is measured against a standard Phenol (antiseptic/anti bacterial) solution to gauge the relative strength of the Non Peroxide activity against Phenol. So, UMF 20+ guarantees antibacterial Non Peroxide Activity (UMF) level of 20+.

Radiated and Repackaged
**ULMO Honey**

- Other honeys have been shown to work in peer reviewed studies.

**ULMO Honey**

- Chilean honey made by Apis mellifera (honeybee) originating from the Ulmo tree (Eucryphia cordifolia) vs selected strains of bacteria.
- Ulmo 90 honey was compared with manuka UMF 25+ (Comvita) honey and a laboratory synthesised (artificial) honey.

**ULMO Honey**

- Standard agar well diffusion assay.
- 96 well minimum inhibitory concentration (MIC) spectrophotometric-based assay were used to assess antimicrobial activity.
- Five strains of MRSA, Escherichia coli and Pseudomonas aeruginosa.

**ULMO Honey**

- Ulmo 90 antibacterial activity > manuka against all MRSA isolates tested
- Similar activity against E. coli and P. aeruginosa.
- Equivalent MICs For E. coli and Pseudomonas.
ULMO Honey

- http://pubmedcentralcanada.ca/articlerender.cgi?artid=1711136 has the full article.
- The disclosure notes: "...study was supported .....and funding for consumables was received from Rio San Pedro Ltd., Chile, which manufactures Ulmo 90 honey.”

“Regular” Honey

- Chestnut (unifloral), blossom (multifloral), and rhododendron (unifloral) all worked.

Historical Honey Digression

- Rhododendrons contain grayanotoxins.
- Grayanotoxins bind to sodium channels in cell membranes with action similar to aconite and veratrum.
Nerve and muscle cells are maintained in a state of depolarization which facilitates entry into them.

All of the observed responses of skeletal and heart muscles, nerves, and the central nervous system are related to the membrane effects.

Will rhododendron honey mess you up?
- "Xenophon's army sickened near the Black Sea..."
- General Pompey a few centuries later...
- Queen Olga of medieval Kiev gave tribute of Black Sea honey to invading Russians, then killed the lot of them while they were in hallucinatory stupors."

Will it make you go mad or kill?
- Probably not as the grayanotoxin levels will kill the hive first.
  - http://www.paghat.com/toxichoney.html
- Or not.
  - http://www.rhodyman.net/rhodytox.html
- Let me know if figure it out!😊
Honey in my practice

- We see and make a lot of wounds.
- We are a referral center for older people with poor limb perfusion who do not heal well at all.
- We use a lot of honey.
- Medihoney (medical sterile manuka honey) costs ~$20-30 for 1.5 to 3 ounces.
- Organic honey costs $5-8 a pound at local yuppie food market.
- Clinically, I have yet to see a difference.

Seaweed – Laminaria and Ascophyllum species

- Sorbsan – my favorite.
- Naturally occurring polysaccharide found in brown seaweed abundant coast of Scotland.

http://www.aspenmedicaleurope.com/Downloads/ProductDownloads/Sorbsan_CaseStudy_432(L)XS24207.09.pdf
Interacts with wound exudate to form a hydrophilic gel.

- Calcium ions in the calcium alginate are replaced by sodium ions found in serum or wound exudate.
- Alginate fibres to absorb fluid and swell and transform into a gel.

Seaweed – Laminaria and Ascophyllum species


Gentian Violet – not plant based

- AKA Crystal violet.
- An aniline dye named for it’s color
- Made from neither gentians or violets.
- But worth knowing about.
- Has potent antibacterial, antifungal, and anthelmintic properties.
- 1-2% +/- alcohol.
- Costs $4-8 for 1-2 oz bottles.
  - Bactroban $13+ for 15g, Altabax $80-240 for 15g.
**Gentian Violet – not plant based**

- Effectiveness of gentian violet and similar products commonly used to treat pyodermas.
- Triphenylmethane dyes, such as gentian violet ... act as antiseptics and have shown clinical efficacy as antibiotics in a variety of pyodermas, including those secondary to MRSA.

**Gentian Violet – not plant based**

- Low cost, ease of application, and favorable side effect profile.
- Triphenylmethanes must be considered legitimate treatment options for pyodermas, particularly in the face of continued and emerging bacterial resistance.
- COMMENT: Downsides include staining (upside is proof of compliance), rare allergic dermatitis and couch trauma.

**Hey Mr. Sandman: Dermabrasion**

- Dermabrasion in one form or another has been part of dermatology since the beginning of the century.
- Medical hand engines are expensive.
- Hardware store items are less so.
Drywall Screens

- Used dry or wet.
- Can be used for large areas.
- A screen with grit as opposed to a piece of paper.
- Does not clog as fast as sandpaper and can be rinsed easily.

Drywall Screens

- Aggressive tissue removal.
- Hypertrophic scars.
- Actinic Keratoses.
- Palmoplantar keratoderma.
- Tumescent anesthesia and drywall screens for large area abrasions create less mist than power abrasion.
Lava Soap

- Pumice from volcanic lava.
- Fine abrasive particles remove stratum corneum.
- Definitely!
SILICONE GEL

Observations

- It does flatten scars on some individuals.
- It is expensive.
- It is very expensive to treat very large areas.
- A variety of products exist.
- Some are tacky to the touch.
- Some are not...like:

Kitchen and Bath and Window and Door and Scar......
- Like the silicon caulking used around the house!
- Cheap.
- Easy to use.
- Large areas.
- Small areas.
- Cut to size.
  - Two ways prepare.

1st Generation
1st Generation

- Variable thickness.
- Messy to make.
- But it works!

2nd Generation

- Clean and easy to make.
- Thickness fairly consistent.

2nd Generation

- Roll flat.
- Keep away from top and sides.
- Cut away top and sides.
- Allow to dry overnight.

2ND GENERATION

- Peel apart the plastic bag.
- Wait an hour.
- Peel off the gel.
- Allow to air dry overnight.
- Cut to size.
Handy consumer size if you lack a caulking gun.

Princeton Tec Aurora Headlamp w/FREE Pulsar LED

The triangular configuration of the high output LED lamps delivers an even beam of light that keeps shadows to a minimum. The Light Emitting Diode technology allows the bulb to burn without feeling. An adjustable prong head lets you move the light where you need it, and the ultralight strap easily fits around your head. These headlamps make a great addition to your arsenal of outdoor gear, and you can keep one in the emergency kit of your vehicle. 3 AAA batteries included.

POWER TO THE PEOPLE

http://botachtactical.com/
**Plumbing Couplings.**

- Flexible rubber.
- Can be used for heroic cryosurgery when your neoprene cones are too small.

**Plumbing Couplings.**

- Remove the clamps and you have a very flexible cone.
- Great for nursing home visits.
Smoke Evacuators.

• If you can legally exhaust outdoors, this can be a cheap way to do it.