The Weekly Probe

24th February 2017 **Volume 14 Issue 7**

Congratulations - Congrats to Adam S and family on the safe arrival of their little girl who arrived on the 18th. Great news!

Welcome- Congrats and welcome to Will S will be taking up a new role and coming on as a Staff specialist from mid March for 12 months relieving Alison.

Pathology Labelling – please be vigilant when labelling pathology samples as we are receiving a lot of IMMS regarding mislabelled or mismatched samples . Try to scrutinise the labelling of samples in the same way a cross match gets done and sometimes labels get mixed up and the wrong form is taken from a full printer. Please be careful

Scripts – Similarly, there has been a number of cases of patients going home with the wrong name on the script. Re-read as you are writing them out and read it out when you are explaining it to the patient at the time of discharge. Please be careful X 2.

Pneumothorax trials - A reminder that TSH ED is participating in a multi-centre clinical trial to look at the optimal management of pneumothorax. People with moderate to large primary spontaneous pneumothorax (PSP) are eligible to participate in the trial.
The trial is investigating whether conservative management or interventional management (small bore chest drain insertion) leads to better patient outcomes.
The info folder on the desk near the “hypokit” also has more information.
And if you are looking after a patient with pneumothorax, don’t forget to flag them for the trial. Contact Alison (before she goes on maternity leave) . After that then contact David Mah or Ben Kwan 24/7 if a potential PSP study patient arrives.

Medication Room - Please **DO NOT** leave your drink bottles, food and belongings in this area – this is meant to be a clean utility room where you prepare medications for your patients – it is unhygienic and in breach of NSW Health policy.

THIS WEEK

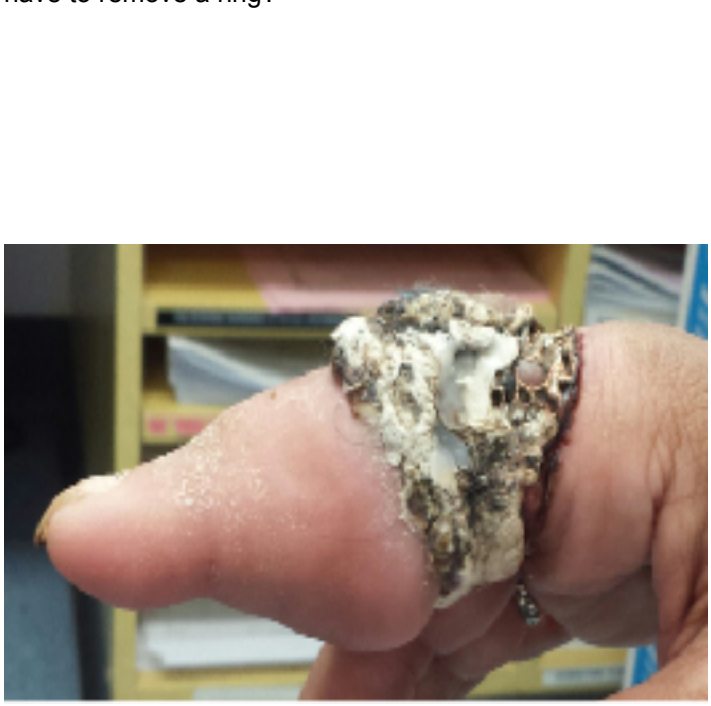
Ring Removal
Joke / Quote of the Week

Next Week's Case
The Week Ahead

Only one issue discussed this week .

Ring Removal

A 30yo lady presents with inability to remove her signet ring for **2 months**. What techniques do you have to remove a ring?



When a patient presents with a hand or arm injury one of our first steps is to remove the rings on the hand.
With a bit of lubrication, gentle rotation and gradual traction, many rings just slip off.
But what if it doesn't and the finger is oedematous? Can we removed the ring intact or should we go straight to cutting the ring? What rings will you have problems cutting and what are you options in this case?

Generic steps:

- Analgesia – consider local anaesthesia with a intermetacarpal or regional block , parenteral analgesia or in the above case, sedation.
- Elevation – elevate the arm to improve venous drainage (an arterial tourniquet may be considered to reduce arterial and thus venous distension)
- Lubrication ++

Both Roberts and Hedges and the Kalkan article below describe a number of techniques.

Winding technique - passing string, or a large (2/0 +) silk suture under the ring and then circumferentially wrapping it around the digit from proximal to distal . The difficult part is trying to avoid bulging bits of tissue between the constricting material by keeping the loops as close together as possible . By pulling on the proximal end of the thread it will push the ring down the finger and unravel the thread. The main hurdle is the PIP joint – once you are beyond that, it's easy!

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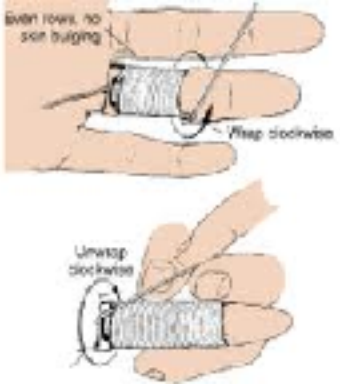


Compression technique - Wrap with a tourniquet to include the ring- the texts talk about 2 sections of a penrose drain which you could get from OT – down in the ED you could try the disposable tourniquets from the IV insertion kits, yet this may be too thick . If too wide, then split the tourniquet longitudinally. An alternative to the penrose drain would be to cut a strip from the wrist section of a rubber glove ~ ½ cm wide
Kalkan describes using the first penrose to wrap around and compress from just distal to the ring, to include the PIP. The second penrose is applied from the proximal end of the 1st drain, over the ring and nearby soft tissues. After ~ 5 min, the second drain is then removed and the ring slipped over the first drain which remained in place. The procedure may be repeated a number of times to reduce the oedema.

A combination technique may be used such as this one
Caterpillar technique – thought this was just jiggling the ring off but the technique has a name! It involves just moving the ring with sequential distal movement of the dorsal component of the ring (during which there is dorsal force applied to the ring) followed by the volar/ palmar part being distally displaced (during which there is a volar/ palmar force applied).

Twin threads or rubber band technique –pass 2 threads of suture or a rubber band (difficult to find in a ED except on US probe cover sets) on opposite sides of the ring. Lots of lubricant! Gentle distal traction is applied with rotational movement like you are driving a steering wheel. Additional lateral force may be applied through the bands / threads or via an assistant similar to a caterpillar movement.

The Glove technique- a finger of a surgical glove is cut off at the base and passed over the finger. The proximal end is then passed beneath the ring with the help of a small set of forceps (this is the

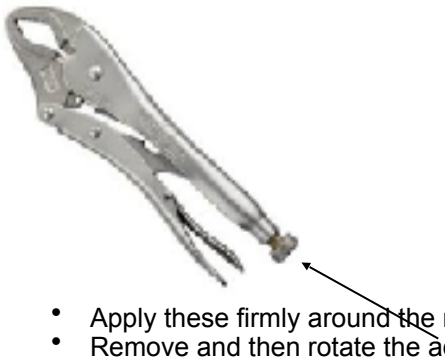
major difficulty). Lubricate the glove. The segment rubber proximal to the ring is then pulled towards the tip

CUTTING RINGS
If there is no point in even attempting (such as is this case) or if it doesn't work there's always the ring cutter manual or battery powered devices.
To protect the underlying skin use frequent application of water to cool the surface. You can consider cutting a piece of Xray film to slide under the ring to protect the underlying skin.

Failing that (eg platinum or titanium rings) the next step is the Ambulance or NSW Fire rescue teams with heavy duty cutters.

Tungsten carbide rings are something to be aware of when considering ring removal. These rings are incredibly hard and thus difficult to cut. However the material is quite brittle and this property can be used to shatter the ring.
Go the videos such as this link which demonstrate the technique.

- Firstly you need to provide protection for yourself and the patient as the material shatters it can be propelled into eyes / faces. Use a face shield (or a medical student– just kidding)
- Get a set of multigrip plyers – borrow this from the maintenance department



- Apply these firmly around the ring
- Remove and then rotate the adjustment knob ¼ turn
- Reapply and lock on
- Remove and then rotate adjustment knob ¼ turn – repeat the process until the ring shatters

In this case, skin was growing through the centre piece of the ring where the stone normally sits, and the standard ring cutter only cut through the accumulated serum, hair and dirt. The fire brigade brought in a gas driven saw and combined with some ketamine, the ring was removed leaving a non-functional rigid finger. !

Refs – Roberts and Hedges , Clinical Procedures in Emergency Medicine
Gardiner CL et al, A comparison of two techniques for tungsten carbide ring removal. Am J Emerg Med 2013 Oct;31(10):1516-9. doi: 10.1016/j.ajem.2013.07.027.
Kingston D, Evaluation of a two rubber band technique for finger ring removal.Ann R Coll Surg Engl 2016 May;98(5):300-2. doi: 10.1308/rcsann.2016.0119.
Kalkan A et al Review of techniques for the removal of trapped rings on fingers with a proposed new algorithm. Am J Emerg Med. 2013 Nov;31(11):1605-11. doi: 10.1016/j.ajem.2013.06.009.

NEXT WEEK'S CASE

A 26yo previously well lady presents 3 days of atraumatic constant LUQ / left flank pain with colicky exacerbations. No other GIT, urinary or cardioresp symptoms. Hb dropped over 3 days from 107 to 73. Below is a copy of her saggital and coronal CT reconstructions. What is going on?

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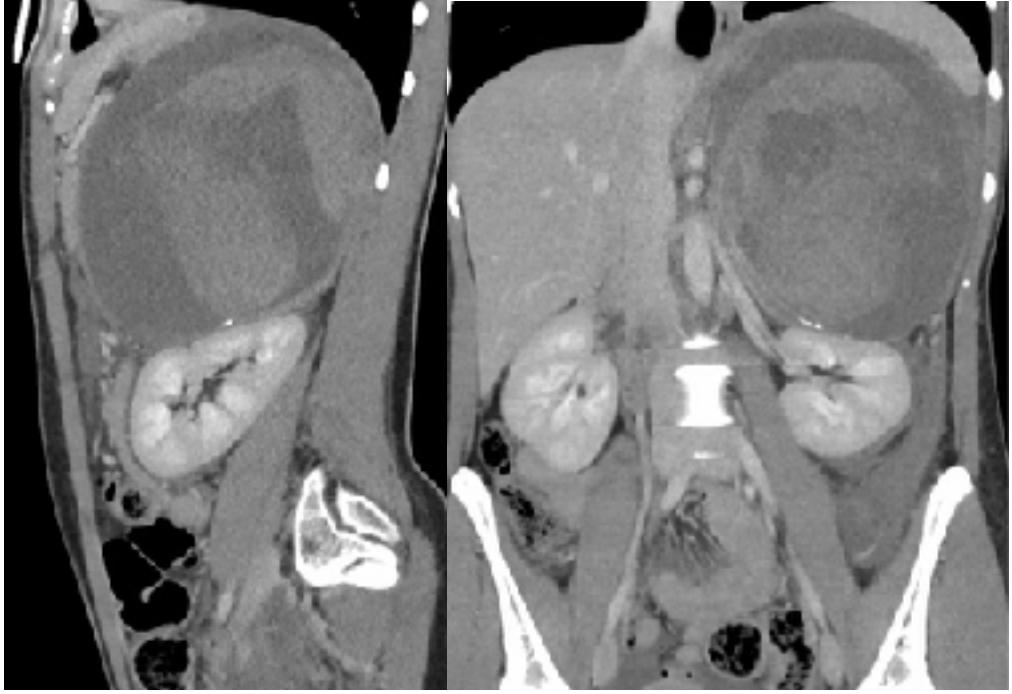

A 80 yo man with a HX of CRF , HT'n and hypertension presents with vomiting and dizziness. His corect ed Ca is 1.6 (lower limit of normal 2.1 mmol/L) (Cr 186) . What is the cause for this and how should this be treated?

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JOKE / QUOTE OF THE WEEK

"For crying out loud, I was hibernating! ... Don't you guys ever take a pulse?"

Please forward any funny and litigious quotes you may hear on the floor (happy to publish names if you want)

THE WEEK AHEAD
Tuesdays - 14:30 – 15:30 Intern & JMO teaching -Thomas & Rachel Moore
Wednesday- 0800-0900 Critical Care Journal Club. ICU Conf Room / 14:30 – 15:30 Intern & JMO teaching -Thomas & Rachel Moore
Thursday 0730-0800 Trauma Audit. Education Centre / 0800-0830 MET Review Education centre / 1300-1400 Medical Grand Rounds. Auditorium.

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