



# Tricks of the Trade

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A collection of random knowledge that most likely will never help you in clinical practice but may help you in real life

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# Disclosures: None

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## Objectives

At the end of this lecture, learners should understand how to:

- Obtain additional doses of epinephrine from an autoinjector
- Attempt nasal foreign body removal without any equipment
- Manage different environmental/wilderness injuries

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## Critical care

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## How to obtain additional doses of epinephrine from an autoinjector

- ▶ Multiple doses of epinephrine may be needed to treat anaphylaxis
- ▶ Up to 4 extra doses can be obtained
- ▶ Not approved by the FDA or manufacturer

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## How to obtain additional doses of epinephrine from an autoinjector

Step 1: Remove the end opposite the needle

Two techniques:

- ▶ Peel off the plastic cover and cut the end of the tube circumferentially about 1 inch from the end.
  - ▶ Caution! When the end comes off, the coiled spring will shoot out
- ▶ Make two 1.25 inch cuts in the center of the flat sides, starting at the end and moving toward the needle. Use a pliers to wiggle and remove the plastic end plug

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## How to obtain additional doses of epinephrine from an autoinjector

Step 2: Remove the syringe

Step 3: Remove the needle sleeve and point the needle upward

Step 4: Withdraw the syringe plunger back to its original position

Step 5: Flip the syringe and inject, pushing the plunger until it is stopped by the glass

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## How to obtain additional doses of epinephrine from an autoinjector



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## How to obtain additional doses of epinephrine from an autoinjector



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## Modified Valsalva Maneuver for SVT



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## Modified Valsalva Maneuver for SVT

REVERT Trial, 2015

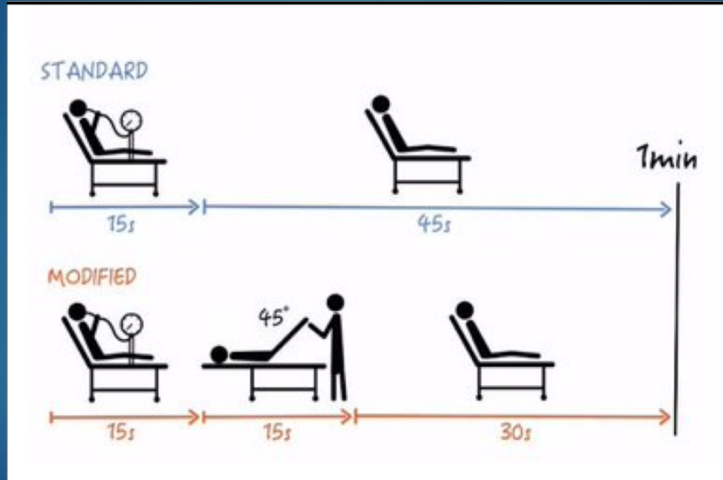
- ▶ Randomized multicenter trial
- ▶ Compared standard vs modified Valsalva maneuver for the reversion of stable supraventricular tachycardia back to a sinus rhythm
- ▶ 200+ participants in each arm

Results:

- ▶ 17% achieved sinus rhythm at 1 min with standard Valsalva maneuver
- ▶ 43% achieved sinus rhythm at 1 min with modified Valsalva maneuver

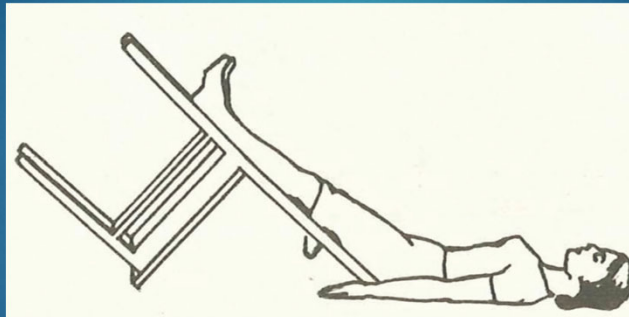
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## Modified Valsalva Maneuver for SVT



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## Modified Valsalva Maneuver for SVT

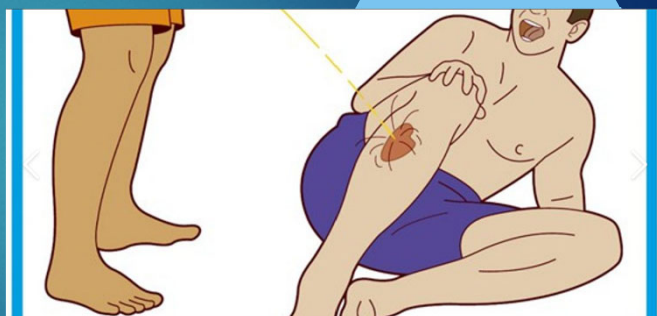


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# Environmental Injuries

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## Jellyfish Sting



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# Jellyfish Sting

- ▶ Immediate, severe pain; linear, red lesions
- ▶ Treatment
  - ▶ Vinegar: will help inactivate nematocysts' discharge
  - ▶ Manual removal of tentacles
  - ▶ Treat pain with hot water immersion



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# Cactus Injuries

## Cactus spine removal

- ▶ Tweezers
- ▶ Adhesive tape
- ▶ Wax hair remover
- ▶ Elmer's glue

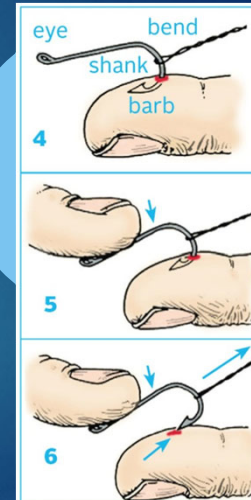


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# Fishhook Removal

## String-Yank Technique

- ▶ Tie fishing line at the midpoint of bend in the hook
- ▶ Hold string tightly
- ▶ Stabilize body part with hook
- ▶ Apply downward pressure to fishhook shank
- ▶ Give string a firm, quick jerk



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# Fishhook Removal

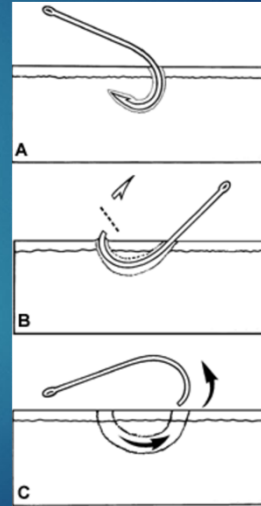


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# Fishhook Removal

## Advance and Cut Technique

- ▶ Advance hook/barb through the skin
- ▶ Cut the barb
- ▶ Pull hook back

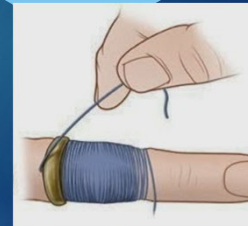


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# Ring Removal

## String Technique

- ▶ Use string, ribbon, thread, dental floss, oxygen mask strap
1. Insert one end of the string under the ring
  2. Wrap the string around the finger distal to the PIP joint
  3. Unwind the string starting from the end under the ring
  4. The ring should slowly move down the finger



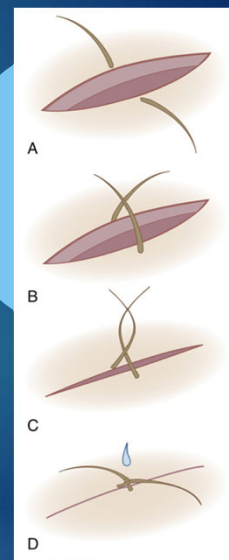
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# Wilderness Medicine

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## Hair Apposition Technique for Scalp Lacerations

- ▶ Recommended for hair  $\geq 3$  cm
- ▶ Grab several hairs from opposing sides of the wound
- ▶ Twist or tie the hairs together until wound edges appose
- ▶ Secure with benzoin or glue



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# Anterior Shoulder Dislocation

## Cunningham Technique

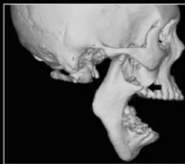
- ▶ Patient sits upright, puffs out chest and pulls shoulders back
- ▶ Patient's arm should be adducted, elbow flexed to 90 degrees, with hand resting on physician's upper arm/shoulder
- ▶ Outer arm massages the patient's trapezius, deltoid and biceps
- ▶ Inner arm applies gentle downward traction to the elbow while adducting it against patient's side



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# Extra-Oral Reduction Technique for Anterior Mandible Dislocation

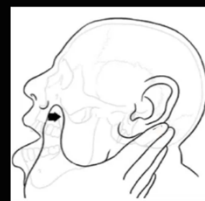
- ▶ Patient either sitting or supine with provider standing in front of the patient
- ▶ Place thumb on the patient's cheek applying posterior pressure to the coronoid process and anterior mandibular ramus (Figure 3)
  - ▶ Fingers placed behind the angle of the mandible to stabilize grip
- ▶ Fingers on opposite side apply anterior force to angle of the mandible (Figure 4)



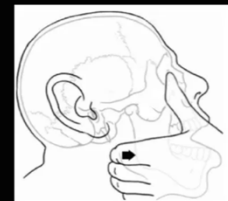
**Figure 1.** When the mandible is anteriorly dislocated, the coronoid process is palpable extra-orally (black arrow).



**Figure 2.** In its anatomic position, the anterior border of the mandibular ramus (black arrow) is not palpable.



**Figure 3**



**Figure 4**

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## Extra-Oral Reduction Technique for Anterior Mandible Dislocation



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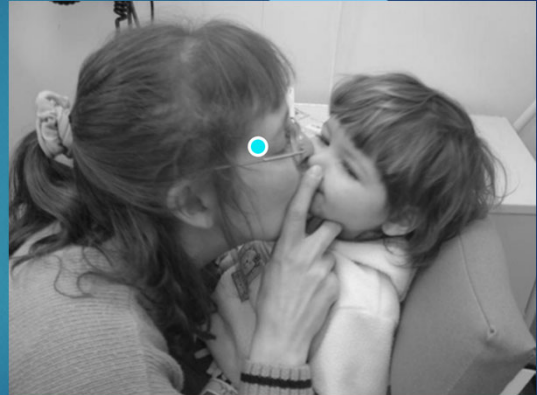
## Pediatrics

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## Nasal Foreign Body Removal

### Mother's (Parent's) Kiss

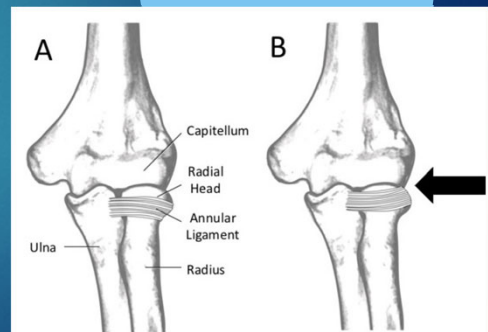
- ▶ Patient sitting or supine
- ▶ Caregiver occludes unaffected nostril
- ▶ Caregiver places mouth over the child's open mouth, creating a tight seal
- ▶ Caregiver blows into child's mouth until they feel resistance, then delivers a short puff of air into the child's mouth



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## Radial Head Subluxation (Nursemaid's Elbow)

- ▶ Children ages 1-4
- ▶ Caused by traction of the arm at the wrist
  - ▶ Causes annular ligament to slip over radial head and into radiohumeral joint
- ▶ Child will complain of pain, refusal to use arm

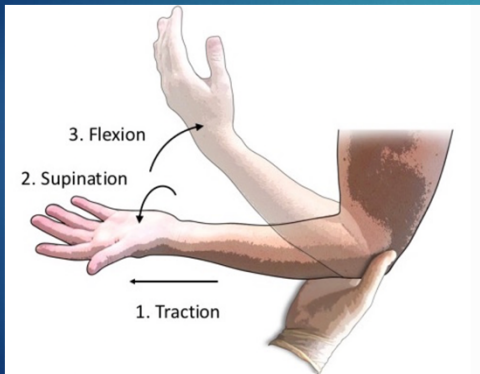


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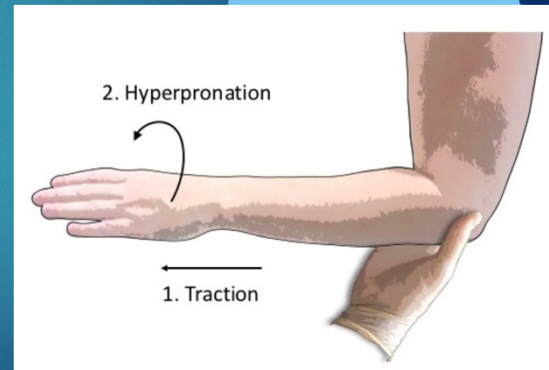
## Radial Head Subluxation (Nursemaid's Elbow)

Reduction: Two techniques

### Supination/Flexion Maneuver



### Hyperpronation Maneuver



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And finally, because we all  
know the ED can get smelly...

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## Questions???



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## References

- ▶ Appelboam A, Reuben A, Mann C, Gagg J, Ewings P, Barton A, Lobban T, Dayer M, Vickery J, Bengier J: REVERT trial collaborators. Postural modification to the standard Valsalva manoeuvre for emergency treatment of supraventricular tachycardias (REVERT): a randomized controlled trial. *Lancet*. 2015 Oct 31;386(10005):1747-53. doi: 10.1016/S0140-6736(15)61485-4. Epub 2015 Aug 24. PMID: 26314489.
- ▶ Dr. Silverberg - How to get the extra doses from an epipen. (n.d.). *www.youtube.com*. Retrieved July 22, 2021, from <https://www.youtube.com/watch?v=fn2oinVuryw>
- ▶ Fishhook Removal. (n.d.). *Fpnotebook.com*. Retrieved July 22, 2021, from <https://fpnotebook.com/Surgery/Derm/FshkRmvl.htm#:~:text=%20First-Line%20Technique%3A%20String-Yank%20%28Stream%20Technique%29%20%201>
- ▶ Fishhook removal using string method. (n.d.). *www.youtube.com*. Retrieved July 22, 2021, from <https://www.youtube.com/watch?v=ZRgH1oLMNnI>
- ▶ Hawkins, S. C., Weil, C., Baty, F., Fitzpatrick, D., & Rowell, B. (2013). Retrieval of Additional Epinephrine From Auto-Injectors. *Wilderness & Environmental Medicine*, 24(4), 434–444. <https://doi.org/10.1016/j.wem.2013.03.025>
- ▶ Incrementalization of the Cunningham Technique for Anterior Shoulder Reduction. (n.d.). ACEP Now. Retrieved July 23, 2021, from <https://www.acepnow.com/article/incrementalization-of-the-cunningham-technique-for-anterior-shoulder-reduction/>
- ▶ Iserson, K. V. (2016). *Improvise medicine : providing care in extreme environments*. McGraw Hill Education.
- ▶ Lin, M., & MD. (n.d.). *Tricks of the Trade Series: Clinical tips in Emergency Medicine*. ALIEM. Retrieved July 22, 2021, from <https://www.aliem.com/tricks-of-trade-series/>
- ▶ Trick of the Trade: Extra-oral reduction technique for anterior mandible dislocation. (n.d.). *www.youtube.com*. Retrieved July 22, 2021, from <https://www.youtube.com/watch?v=N3edJvp5DoA&t=21s>
- ▶ UpToDate. (n.d.). *www.uptodate.com*. Retrieved July 22, 2021, from [https://www.uptodate.com/contents/radial-head-subluxation-pulled-elbow-evaluation-and-management?search=radial%20head%20subluxation&source=search\\_result&selectedTitle=1~8&usage\\_type=default&display\\_rank=1](https://www.uptodate.com/contents/radial-head-subluxation-pulled-elbow-evaluation-and-management?search=radial%20head%20subluxation&source=search_result&selectedTitle=1~8&usage_type=default&display_rank=1)

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