Rural Trauma Cases

- Tips and Tricks

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Disclosure

nada

Learning Objectives

1. Discuss the management of trauma in the rural BC setting using real cases
2. Discuss specific issues related to available resources and patient transport in these cases
3. Review potential pitfalls in the management of rural trauma patients

Case 1

38 female, boulder to the head

36.6

100

110/60

14

86% 15L NRB

GCS 3

Beat The Stress Fool

Breath

Talk

See

Focus

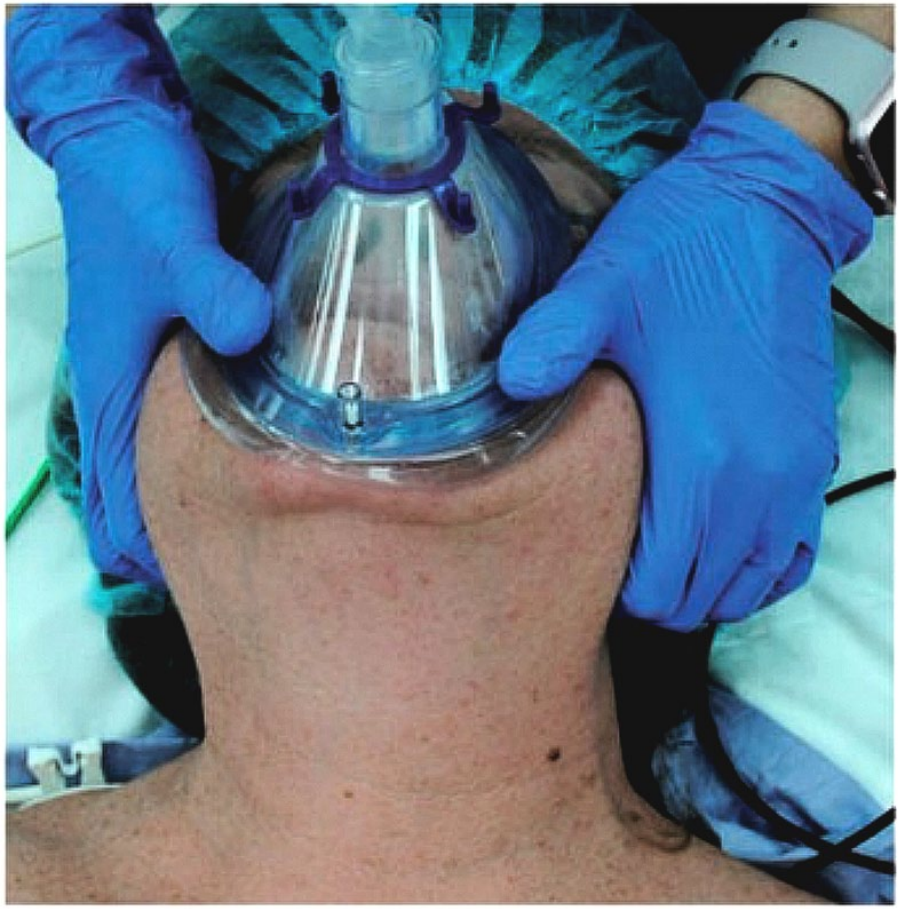
Ref: First10EM Performance under pressure

How to Preoxygenate *sick* patients

88% 15L NP and 15L NRB

Blood everywhere from large scalp lac

How to Preoxygenate *sick* patients



Triple 15 Rule

- 15L NP
- 15L NRB
- 15L BVM with ***PEEP***
- may need PPV

AIRWAY/REVIEW ARTICLE

Preoxygenation and Prevention of Desaturation During Emergency Airway Management

Scott D. Weingart, MD, Richard M. Levitan, MD

From the Division of Emergency Critical Care, Department of Emergency Medicine, Mount Sinai School of Medicine, New York, NY (Weingart); and the Department of Emergency Medicine, Thomas Jefferson University Hospital, Philadelphia, PA (Levitan).

Severe TBI Management

Specialist Trauma Advisory Network of BC (STAN)
EMCRIT Internet book of critical care

Avoid Hypotension

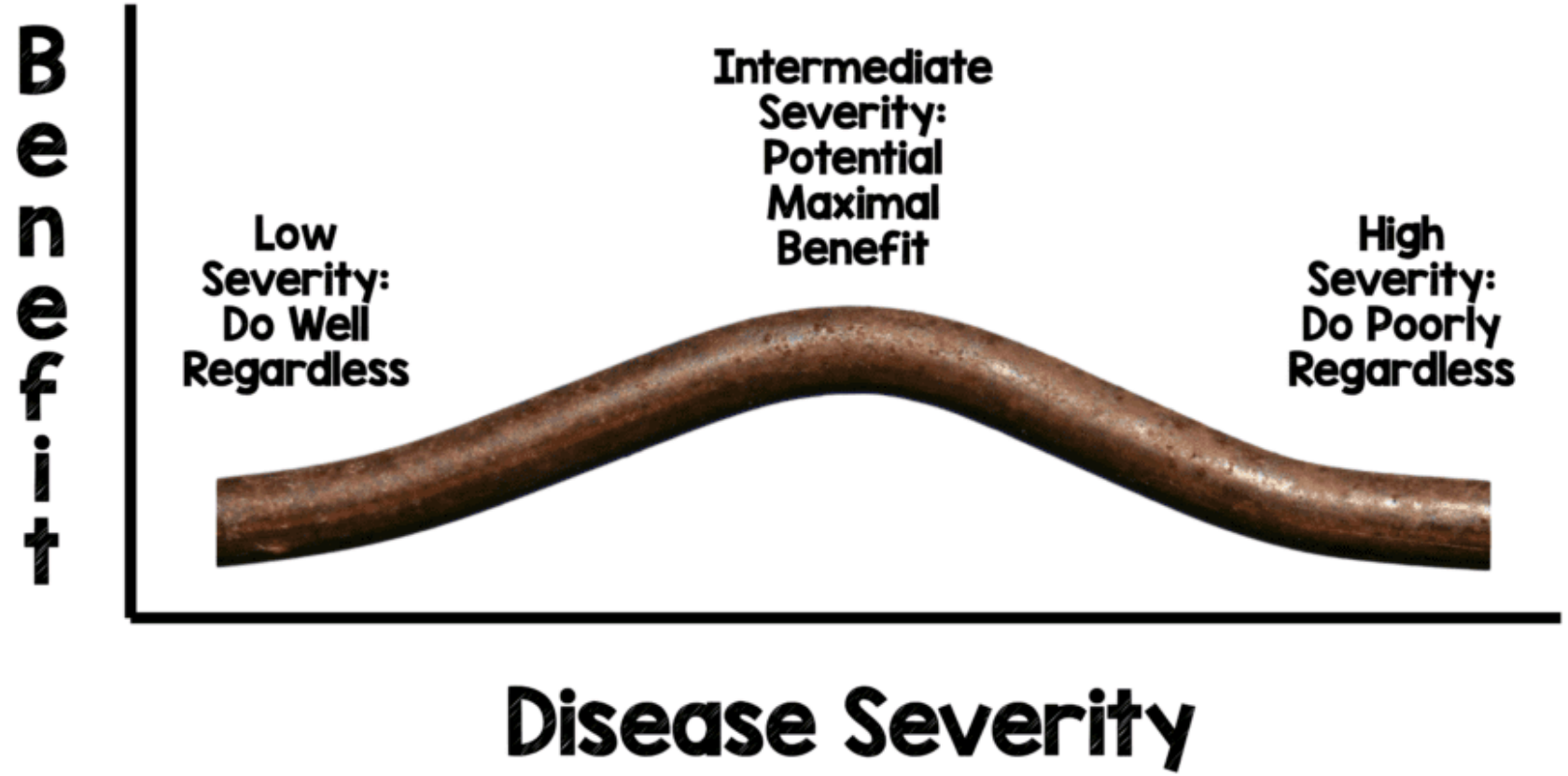
Goal: SBP > 110

Resuscitate with **crystalloid** or **blood** (if polytrauma with hemorrhagic shock)

If still hypotensive , start **Norepinephrine**

Ref: Brain trauma foundation

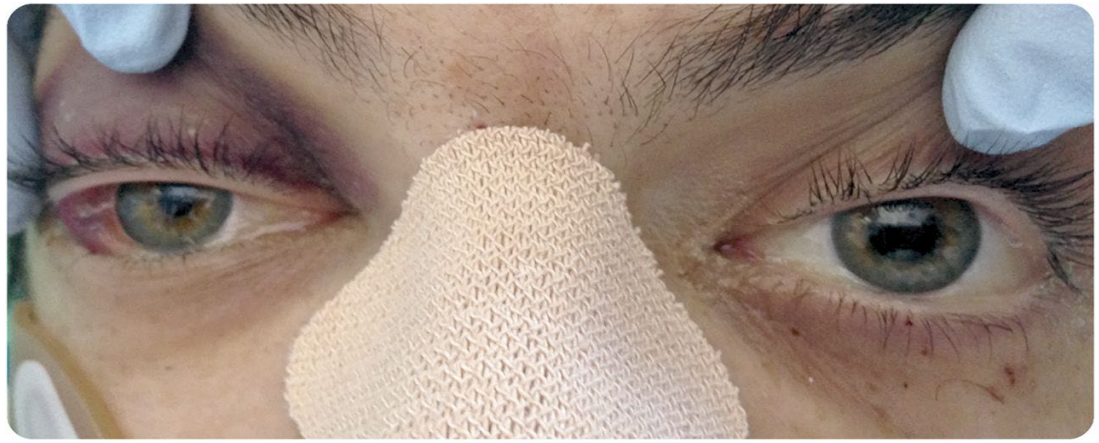
TXA?



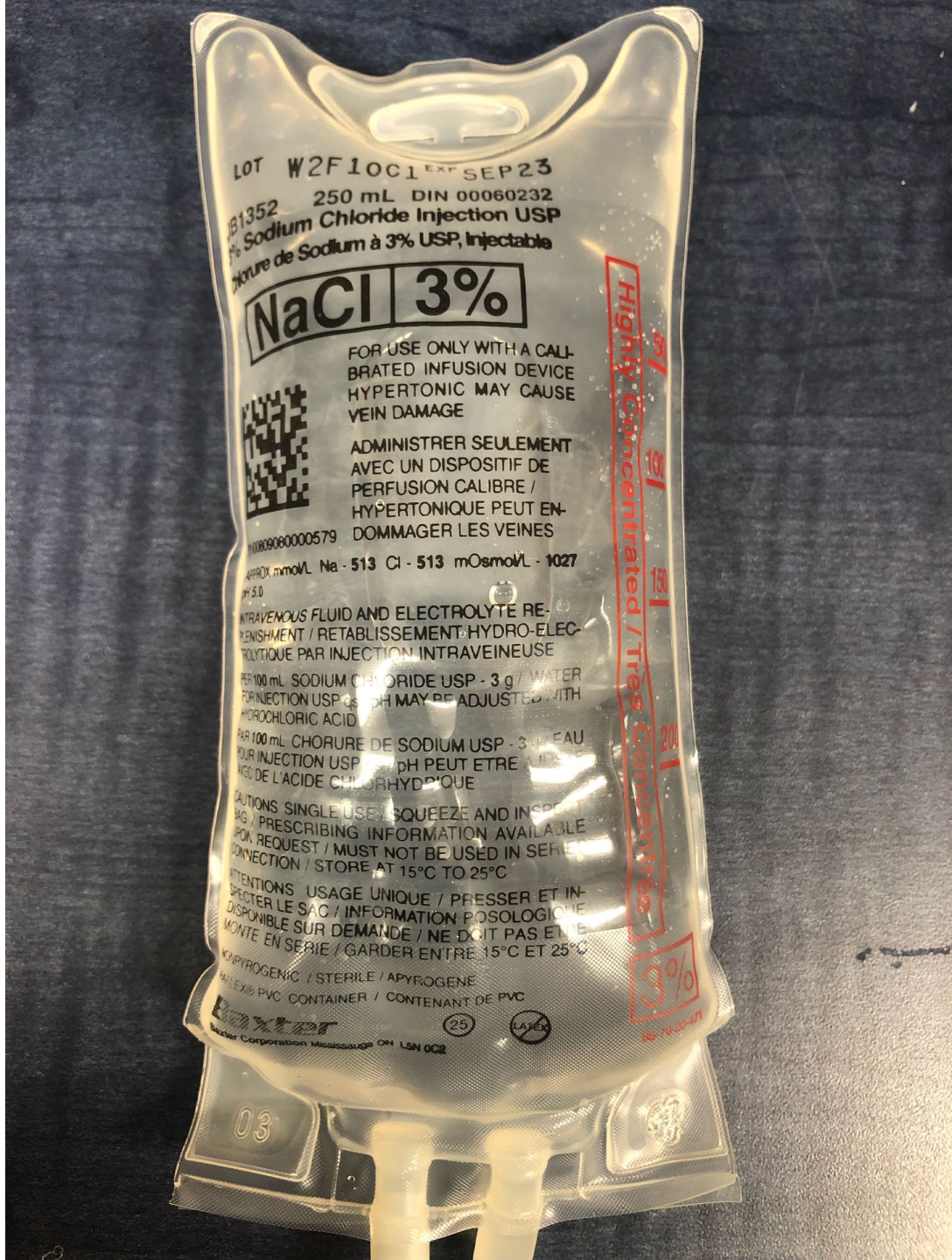
CRASH-3: GCS 9 – 12 with Biggest Potential Benefit

Herniation syndrome

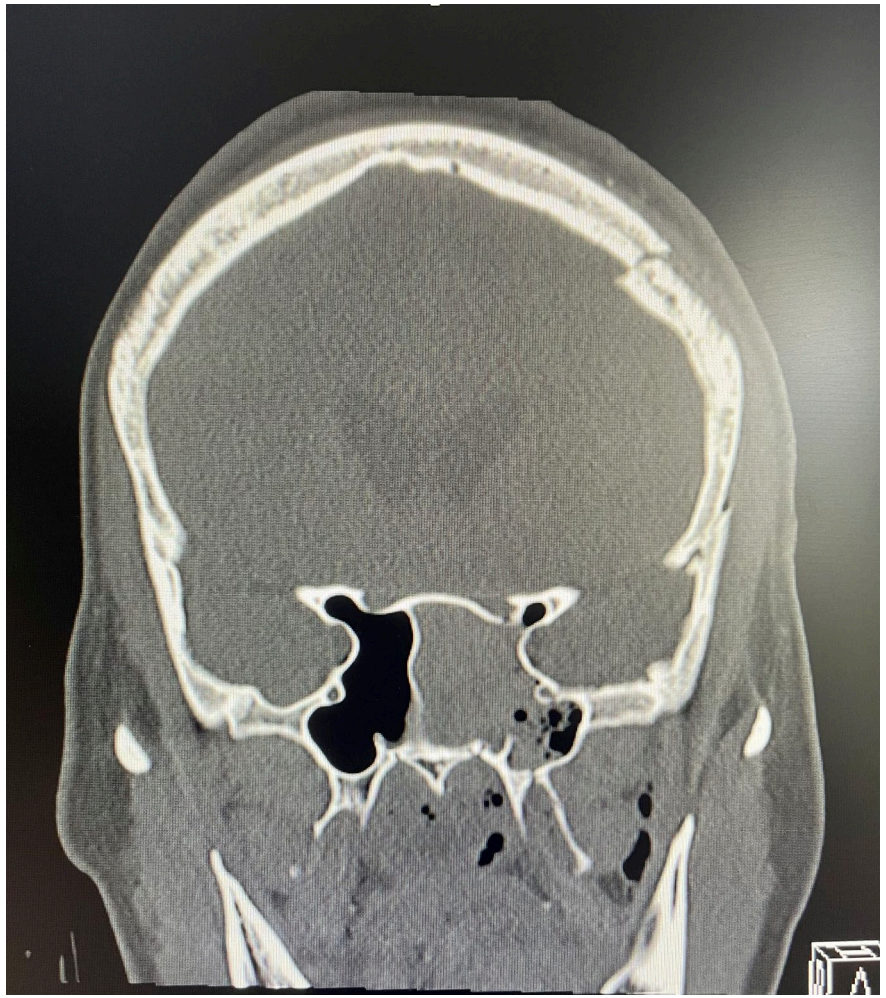
Unilateral or bilateral pupils fixed and dilated

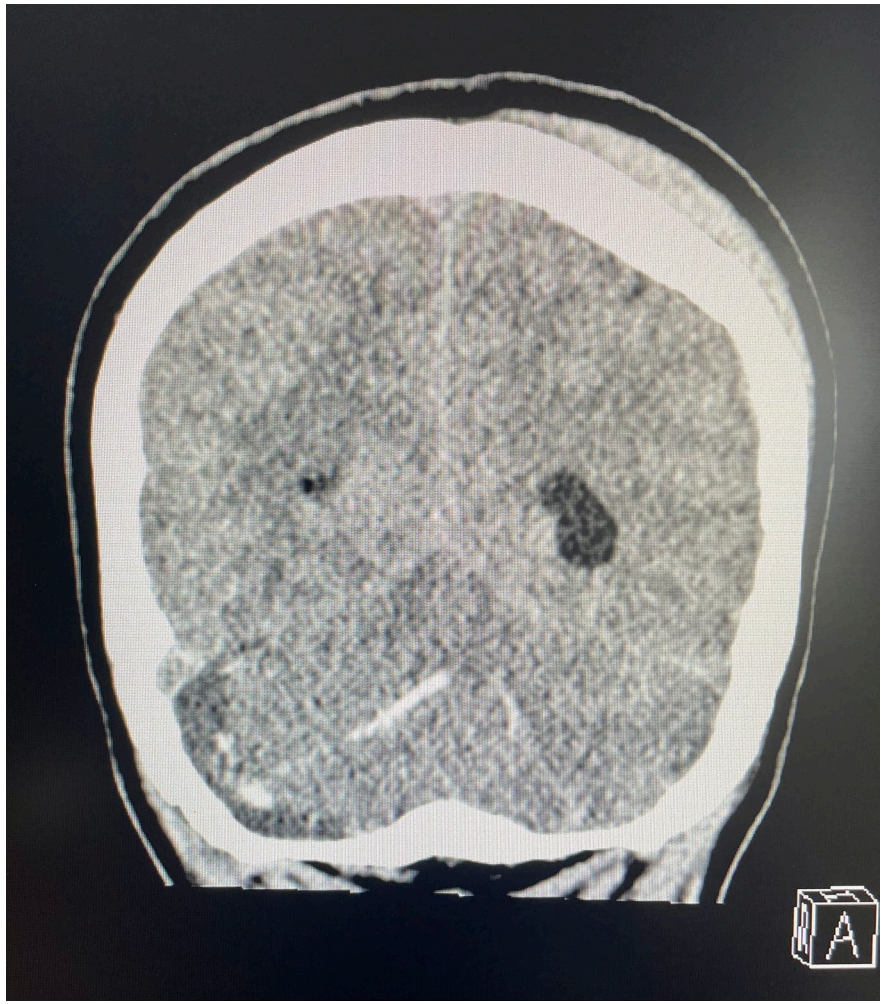


Rule of 3s



Case 1: Outcome



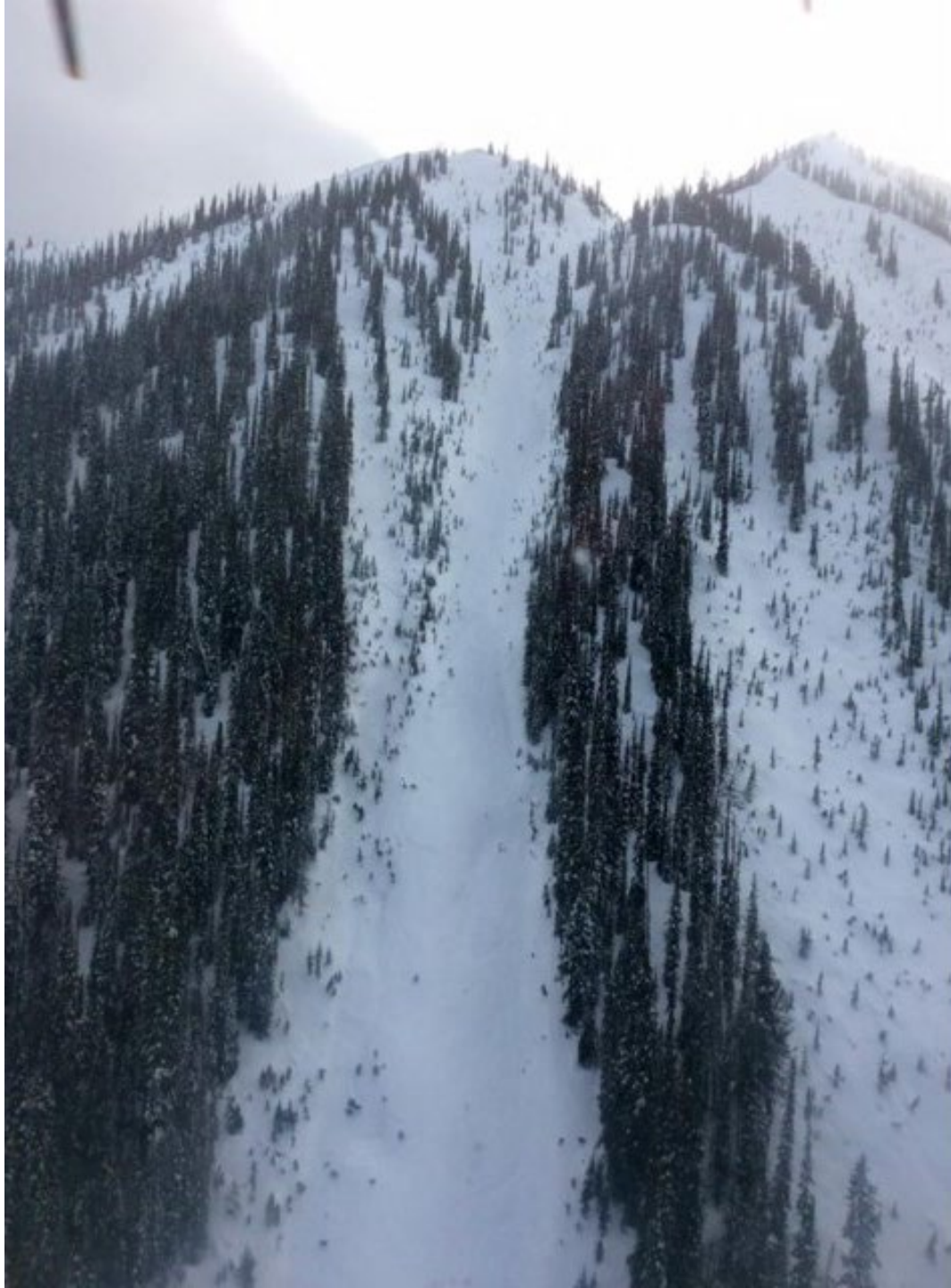


Refs: First10EM, EMC Ep110, Wiengart/Levitan, STAN of BC, Emcrit TBI

Case 2

58 male

- Size 3 avalanche
- Carried 600m, partial buried
- Dug out within 10 min
- No helmet
- GCS 15, talking at scene



Case 2

35

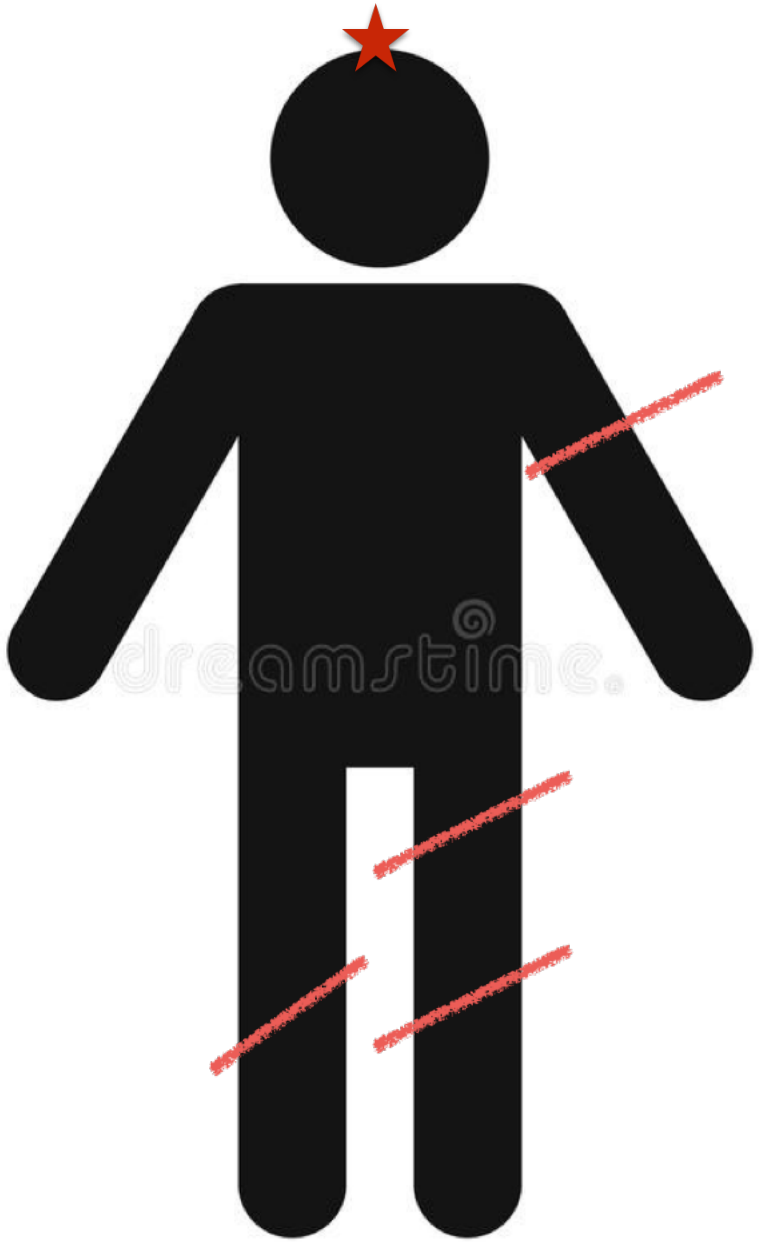
105

116/64

16

96% RA

GCS 14

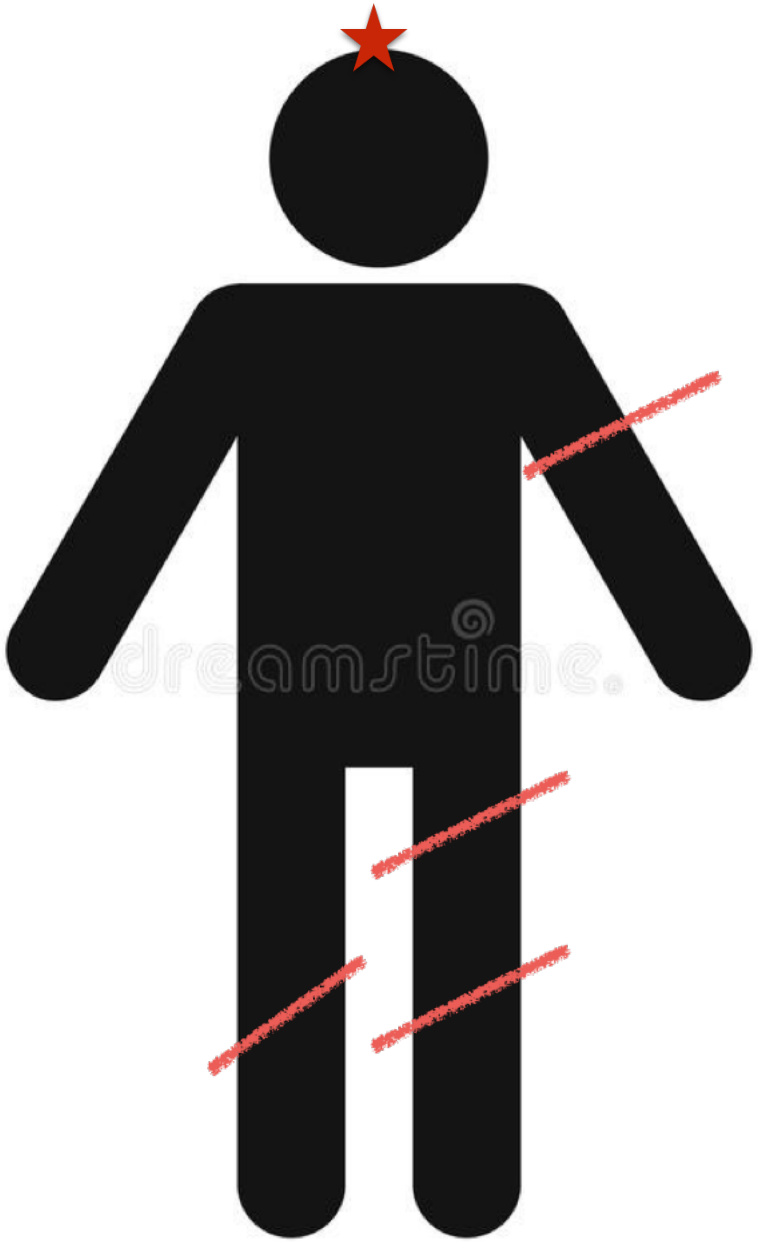


Rushed back to emerg

115

70/30

GCS 8 (E2V3M3)



Don’t send sick trauma patients for x-rays

Skip the Films

REDUCE

SPLINT

SEND

Low GCS in trauma doesn’t always = head injury

Refs: EMCEp118/119

Case 3

- 22 male, Psychosis Race
- OTB and hit head
- Confused
- Helmet broken

- GCS 14
- Doesn’t remember the race

Canadian CT Head Rule

CT head is only required for minor head injury patients with any one of these findings:

High Risk (for Neurological Intervention)

1. GCS score < 15 at 2 hrs after injury
2. Suspected open or depressed skull fracture
3. Any sign of basal skull fracture*
4. Vomiting ≥ 2 episodes
5. Age ≥ 65 years

Medium Risk (for Brain Injury on CT)

6. Amnesia before impact ≥ 30 min
7. Dangerous mechanism ** *(pedestrian, occupant ejected, fall from elevation)*

*Signs of Basal Skull Fracture

- hemotympanum, 'racoon' eyes, CSF otorrhea/ rhinorrhea, Battle's sign

** Dangerous Mechanism

- pedestrian struck by vehicle
- occupant ejected from motor vehicle
- fall from elevation ≥ 3 feet or 5 stairs

Rule Not Applicable If:

- Non-trauma cases
- GCS < 13
- Age < 16 years
- Coumadin or bleeding disorder
- Obvious open skull fracture

Stiell IG, et al. The Canadian CT Head Rule for Patients with Minor Head Injury. Lancet 2001;357:1391-96.

- Stood the test of time
- How to enter the rule
- Anticoagulation

Outcomes

Neurological intervention

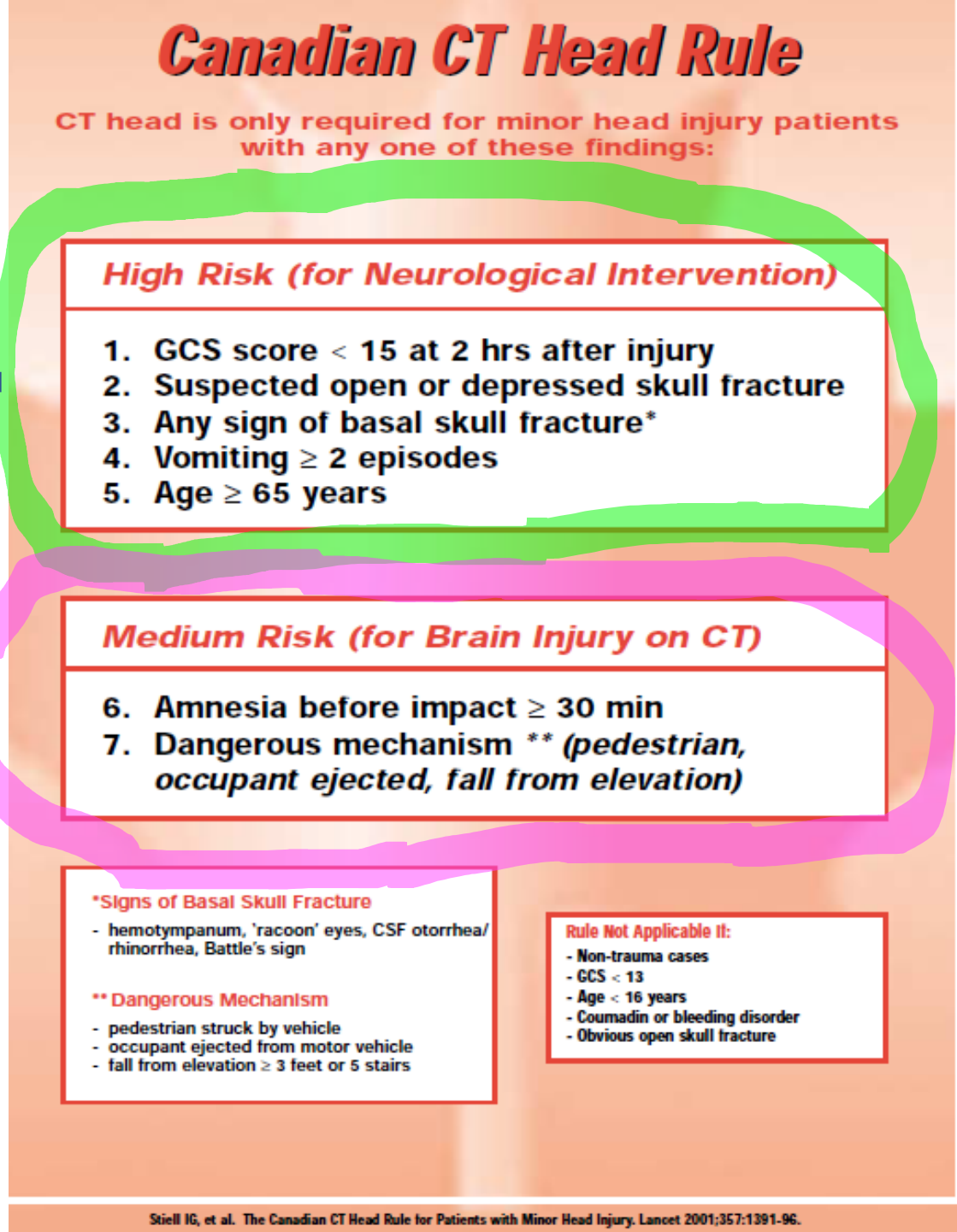
- Died (0.4%)
- Neurosurgery
- Intubation

4%

15%

Clinical impt brain injury on CT

- Contusion, SAH, subdural
- Admission to hospital and NeuroSx f/u



Back to case

15%

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Take Home Pearls

- Preoxygenating ***sick*** patients
- Reduce – Splint – Send
- CXR and Pelvis ONLY
- CT Rule to help with patient shared decision making