

# SNOW SPORT HEAD INJURY

Acute & Long Term Effects

FWD Meeting

August 2007

# GOALS

- Understanding Concussion-severity & chronicity
- Differentiating Concussion from other forms of Traumatic Brain Injuries
- Dealing with patrollers and guests who are suffering from Traumatic Brain Injuries

# Concussions

- Commonest form of head injury
- Closed head injury—swelling
- May effect any part including brain stem
- Grades I-mild-confusion II- + brief anterograde amnesia III- + brief retrograde amnesia IV- ++ unconscious <10 mins V- ++ unconscious > 10 mins

# Concussion-2

- Return to patrolling—I- 1-2 weeks, II- 1-4 weeks, III- 1 month-1 year
- Normal course— resolves within 1-3 days, but may last up to 6 weeks
- Example—12 y/o snowboarder-helmet-?fell & hit head—*where am I, what happened*—almost cleared at aid station. 23 y/o pro patroller-helmet-hit head, loc-a few minutes-headaches, nausea, forgot names, difficulty with words, finally cleared after 5 weeks

# Concussion-3

- Signs and Symptoms of Concussion do NOT R/O Strokes or Other TBI's— especially if MOI for significant trauma is present
- Re: 10 Signs of Neurosurgical Emergencies

# STROKE--HEMORRHAGIC

- Bleeding into the brain from head trauma—swelling and ischemia to critical areas
- Headache, < LOC, hemiplegia, aphagia, confusion
- Example— 55 y/o physician, being treated for thrombophlebitis with Coumadin, fell from ladder-hit head-cleared-headache, coma and death

# Traumatic Brain Injury

- Usually severe closed head trauma—MVA results in unconsciousness for several days—wakes up confused, loss of speech, change in personality, slow gradual recovery, some permanent dysfunction, change in personality
- Bruising and swelling of the brain

# Management

- All head injuries resulting in unconsciousness, confusion or focal neurological signs—needs ABC's, head-neck-back immobilization, O-2 and urgent referral to hospital with neurosurgical care
- CT/MRI often necessary
- Return to skiing/patrolling depends on severity and persistence of symptoms; second concussion worse than first.



# Management 2

- Patrollers need comprehensive evaluation before returning to patrolling, may need to have specific restrictions; e.g., not operating a snowmobile or sled.
- Psychological assessment and treatment may be necessary—personality change, loss of higher cognitive/executive functioning, poor concentration and depression