The Disabled Patient
Head Injuries

YOU'VE ABSORBED MANY PUNCHES IN YOUR BOXING CAREER. HAVE YOU SUFFERED PERMANENT DAMAGE?

COULD YOU REPEAT THE QUESTION?

I'M GOING TO ASSUME YOUR ANSWER IS 'YES.' IS THAT OK?

COULD YOU REPEAT THE QUESTION?
Head Injuries

• “Head Injuries, “Don’t change who you are, they just intensify who you are.” Physiatrist: Dr. Bob Haile, MMC

• Routines become very important and changes in a routine can be difficult and can “upset the apple-cart.”

• Head injuries can be subtle, (when not strikingly obvious) both to the operator and to the audience. So these patients may not be aware of their own short-comings.

• My thinking has become more linear. I can no longer multi-task and I have difficulty when there is a lot of activity or confusion around me.

• Head Injuries lower ones [psychological] threshold.
The Disabled Patient

• Purpose

To help the audience understand through your personal and professional experience, the factors to consider when evaluating a patient with a physical and/or mental disability diagnosis.
Goals

1.) To illustrate some emotional and physical issues and adversities faced by the SCI patient.

2.) “No Health without Mental Health.”

3.) Urinary Tract infections; “To reuse or not to reuse catheters. What is the way?”

4.) Pain: “A very real issue. How best to address?”
Goals

- 5.) Pressure Sores: Prevention, Prevention, Prevention, or “The Beginning of the End?”

6.) Returning to Work: The Turning Point to My Healing or My Potential Downfall?

7.) Work, Travel, Relationships
Saltspring Island, British Columbia, Canada
Courage
Lessons

• Survival and Suffering
• Life is Random and Unfair
• Three things in Life we all experience:
  - Birth
  - Death
  - Change; at an unprecedented rate
Thunder Bay, Ontario

- Emergency Medicine in Thunder Bay, Ontario
Smithers, British Columbia
Family Medicine, ER, OB GYN, in Smithers, British Columbia
Berlin, NH

- 1996 Looking for Community to call home
The Climb

Last climb of the season

April 17, 1999

Huntington Ravine, Mt. Washington. Climb

Damnation Gully
The Accident

- Damnation Gully, a 1600 foot, grade 3 snow and ice route on the north side of Huntington Ravine.
- About thirty feet remained of the pitch when disaster struck.
- *No intermediate climbing protection had been placed.*
- Still roped together, DB and CL fell 1000 feet down Damnation Gully.
- Other climbers responded to DB's cries for help
- One of these climbers was equipped with a portable handheld radio. He transmitted an emergency message which was received by another Forest visitor 3 miles away at the trailhead.
Trauma
The Rescue

• They were met on the trail by witnesses who reported a much more serious accident than had been initially thought. Additional resources were mobilized from the USFS, AMC, and RMC to assist in the care and evacuation of the victims.

• CL's injuries and vital signs were quickly assessed. Oxygen was administered.

• CL suffered an L1 spinal compression fracture, [nine] broken ribs, a fractured right femur, pnemothorax of the right lung, severe head trauma [and a right brachial plexopathy.]
Both climbers were wearing helmets. The helmet worn by CL was destroyed in the fall. There is no doubt it saved his life.
Friends and Family
Mental Health
Bladder and UTI’s
Urinary Tract Infections and Self-Catheterization

10 Minutes/cath = 1 hour/day
365 hours/year = 15.2 days/year
2190 caths/year
Approach to UTI’s

• Antibiotic at early symptoms; Neurogenic Leg Pain, Incontinence

• Antibiotic: SMZ-TMP
  » Ciprofloxacin
  » Nitrofurantoin
  » Amoxicillin
  » Cephalexin

Average 1 UTI/month = 180 UTI’s!!
Kindergarten in Querétaro, Mexico

Resistant Bacteria?
Methenamine Mandelate
Hexamethylenetetramine

• It decomposes at an acidic pH to form formaldehyde and ammonia; formaldehyde is bactericidal

• suitable for long-term prophylactic treatment of urinary tract infection, because bacteria do not develop resistance to formaldehyde
Clean Catheters

• Wash catheters in dish detergent (soak 24hrs in soapy solution then wash x 10min.)
• Rinse in [cold or warm] water
• Rinse again in boiling water
• Lay out on clean cloth [while still hot] in such a way that all remaining liquid dries.
• UTI free for greater than 4 months for the first time in 15 years!
UTI Causing Bacteria

Offending Agents

- Stenotrophomonas Multophilia
- Acinetobacter Baumanii
- Strept. Bovis
- Staph. Sciuri
- Citrobacter Freundii
- Enterobacter Cloacae
- Klebsiella Pneumonia
- Pseudomonas
- Klebsiella Oxytoca
- Ent. Faecalis
- E. Coli
Neurogenic Pain

Well, I guess it's not a kidney stone after all!
Neurogenic Pain

- 15% - 20% SCI patients experience neurogenic pain
- Description: -electricity
  - burning
    - cruel
    - piercing
    - cutting
    - lancinating
Neurogenic Pain

» Differentiate ➔ - Central Neuropathic Pain
- Peripheral Neuropathic Pain

Composed of:

» - Spontaneous Continuous Pain; Baseline pain (1 to 4/10)

» - Spontaneous Intermittent Pain; Waves of more intense pain that come and go, “seems to have a mind of its own” (5 to 10/10)

» - Abnormally Evoked Pain; Caused by light touch; bedsheets, someone’s hand, etc. (8 to 10/10). Symptoms of Allodynia, Hyperalgesia, Hyperpathia

Neurogenic Pain

• Allodynia: pain produced by normally non-painful stimulation such as light touch.

• Hyperpathia: disagreeable or painful sensation in response to a normally innocuous stimulus.

• Hyperalgesia: increased sensitivity to pain or enhanced intensity of pain sensation.
Pain Control
(No such thing as being pain-free)

- Anticonvulsants: gabapentin, pregabalin, valproic acid
- SNRI’s: venlafaxine, duloxetine
- Adjuncts: acetaminophen, ibuprofen, etc.
- Narcotics; save for episodes of severe pain: UTI, Harrington Rod dilemma, further traumatic events; broken bones, pressure sore. “Less often is more”
- Electrical Stimulation; ESTIM
- Physical Activity: Hand-Cycling, Wheeling, Sit-Skiing, Kayaking
- Mental Activity: Take up a Hobby. Learn / Play an instrument.
Pain Control
Work

• At times difficult to be a compliant patient and to work at the same time:
  – Pressure releases
  – Drinking enough water
  – Self-catheterization under less than ideal circumstances
  – Carrying out the Remaining ADL’s
Work

• Have a role-model
  – My Grandfather
  – Worked until he was 90+
  – *Mantra:* “If he can get up and go to work, then I bloody-well can too!”
  – Lived independently [with my Grandmother] until 94
  – Died age 98.
Pressure Sores
Pressure Sores

• These are most concerning
• Life-altering
• Life-threatening
• From Months to Years to Heal!!!
• Prevention, Prevention, Prevention
• Pressure releases; q15 minutes. Be active in chair
• Increased risk of developing if otherwise unwell: UTI, Flu
Pressure Sore and other Mishaps: Timeline

Start

• **1999**
  - 04/1999 Accident-
  - 09/1999 Discharged home-

• **12/1999** Son [Liam] born-

• **2002**
  - 01/2002 Return to Work-

• **2006**
  - 07/2006 Wife leaves-

• **2007**
  - 05/2007 Left Femur fracture-

  - Scrotal Dilemma 02/2009 2009

• **2011**
  - 03/2011 Grade 2 ischial pressure sore-

  - ESTIM and referral to Wound Clinic 09/2011

  - Wound healed-

  - Wound re-abraded 12/2011

12/2011 Wound healed-
Pressure Sore and Complications: Timeline con’t.

- **2012**
  - **03/2012** Mexico: Wound Healed-
  - **08/2012** Referred to Wound Clinic-
  - **11/2012** #2 Admitted MMC Sepsis/
    Osteomyelitis-
  - **11/2012** Discharged: Home; IV antibiotics and
    Hospital Bed-
  - **05/2013** Discharged Home from AVH-
  - Mexico: Macerated Healed Tissue re-injured
    **03/2012** Return to Work.
  - #1 Admitted AVH: Sepsis /Osteomyelitis **08/2012**
    - #3 Admitted AVH: Sepsis /Osteomyelitis and
      Wound Care **01/2013**
    - **C.difficile** Metronidazole x 3 weeks
    - Vancomycin x 2 weeks
Travel

- **Learn to urinate inconspicuously** in public settings: Cafes, Parks, Theaters, Planes etc.
- **Folding Wheelchair:** In order to squeeze through narrow doorways.
- **“First-Aid Kit”:** Pain, UTI’s, Skin, etc, etc.
Summary

• Potentially complicated [time consuming] patients: Physical, Psycho, Social arenas
• Ask about the 3 B’s: Bowels, But[tock], Bladder....Don’t forget Mood
• Patients and their Family’s need permission to grieve. Give them a roadmap
• Success breeds further success [and the contrary].
• Help is necessary
• Peers and a Support Group were helpful for me, “To learn the ropes”
• PCP’s/PCA’s: Spend a day/week in a wheelchair
Summary UTI’s

- **UTI’s** - Presenting symptoms can / will differ among SCI patients.

- These are further disabling

- Know the proper method on how to clean, dry and re-use catheters. (Or alternative strategies). You will be doing your patient a very big favour
Neurogenic Pain

- **Neurogenic Pain** - Akin to Diabetic Neuropathy? or Post-Herpetic Neuralgia?
- Neurologics as first-line meds.
- Don’t discount adjuncts
- Narcotics sparingly but at times necessary
- In my experience; there is no such thing as being absolutely pain-free
- Have a passion / activity or a hobby. “Filing a piece of metal (to repair or build a clock) controls my leg pain very well”
- Learn to play the Accordion!
Pressure Sores

- **Prevention is Key**
  - Pressure releases *q15 minutes*
  - Being active in one’s chair
  - Ongoing vigilance and monitoring
  - Consider ESTIM via Rehab. Dept. as Adjunct or Mainstay of treatment
- Newly Healed Skin: **80% of pre-injury strength**
- Subsequent injuries of the same area: **80% of the 80%** etc.
Work, Travel, Relationships

**Work:**
- Role Model helps
- Accommodating Employer

**Travel:**
- Folding Wheelchair
- Learn to urinate on stage.
- Some form of “First-Aid Kit”: Antibiotics, Pain, Skin, etc.

**Relationships:**
- Twice as likely to end as compared to National Average.
- More likely to survive if partner enters into setting of pre-existing injury.
The End