Oral Examination

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Case 1

Hand Weakness

A 43-year-old woman presents 4 months after undergoing open carpal tunnel release with another surgeon. She complains of pain and weakness in the hand (black dots mark the original incision).

Objective 1: The candidate can obtain an appropriate history

Question 1: What information would you obtain from this patient when performing a history?

- Patient factors (handedness, occupation, comorbidities, smoking)
- Hand factors (original symptoms, date/timing of surgery, description of current symptoms, onset, location, duration, severity, characteristics, aggravating/alleviating factors, radiation) and relationship of current symptoms to surgery
- Patient concerns/goals

Objective 2: The candidate can perform an appropriate physical examination

Question 2: Describe your physical examination of this patient

- Inspection (atrophy, colour change, deformity, swelling, scarring)
- Palpation
- Sensation (2-point discrimination, vibration)
- Capillary refill, Allen test
- Motor function (FDS/FDP/FPL/thenar muscles)
- Special tests (Tinel, Phalen, Durkan)

Objective 3: The candidate can develop a management plan

Question 3: On review of the patient, it is apparent that following surgery there was an increase in pain and weakness of the hand that is not improving. There is pronounced atrophy of the thenar musculature. APB strength is 0/5. Two-point discrimination is normal. What is your presumptive diagnosis?

- Iatrogenic injury to recurrent motor branch

Question 4: Electrodiagnostic studies confirm no motor units in the thenar musculature. It has now been 4 months since the surgery was performed. Describe your operative management of this patient

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- Return to operating room
- Exploration of the median nerve and recurrent motor branch
- Neurolysis +/- grafting

Objective 4: The candidate can communicate regarding an iatrogenic injury

Question 5: Intraoperatively, you discover that the recurrent motor branch has been lacerated. With retraction of the proximal and distal ends, it is necessary to perform an interpositional nerve graft. The patient asks about your findings. What will you tell her?

- Honest conversation regarding operative findings
- Iatrogenic injury to nerve
- Injury explains her hand pain and weakness following surgery
- Repair with graft and anticipated rate of recovery and prognosis

Case 2

Frostbite

An otherwise healthy 22-year-old male presents to the emergency department following a night spent lost in wilderness. He has sustained frostbite injuries to his hands and feet. He has no other injuries.

Objective 1: The candidate can manage acute frostbite

Question 1: He has been seen and stabilized by the emergency department physician. You are called to assess his hands. Describe your initial management of this patient.

- History and physical examination
- Focused examination of the hands including calculation of TBSA and determination of circumferential injury
- Debridement of blisters (prevent thromboxane-mediated tissue injury)
- Topical dressings (aloe vera)
- Pain management (ibuprofen +/- narcotics)
- Tetanus prophylaxis

Objective 2: The candidate can manage chronic frostbite

Question 2: The patient has significant involvement of 6 fingers. The wounds are dressed and his pain is managed. How would you counsel the patient regarding the management of this injury?

- Continued dressings and pain control
- Monitor for potential infection
- Allow wounds to demarcate
- Eventual debridement (may include amputation)
- Possible need for revisionary surgeries down the road
- Hand therapy and splinting

Question 3: The patient is sent home with arrangements for home care and daily dressing changes. At 10 weeks postinjury, he presents back with fingers well-demarcated with dry black eschar involving all areas previously debrided. How would you proceed?

- Surgical debridement +/- amputation as required

Objective 3: The candidate can manage complications from frostbite

Question 4: The patient undergoes amputation of both small fingers at the level of the MCP joints, the left ring finger at the level of the mid-proximal phalanx, and the left long finger through the PIP joint. An additional area of frostbite in the right volar first web space is debrided and allowed to heal secondarily. This results in contracture of the first web space. What are the options for the management of the first web space contracture?

- Nonoperative:
 - Splinting, hand therapy, exercises
- Operative:
 - Local flaps (V-Y, Z-plasty, Jumping Man, 4-flap Z-plasty)
 - Regional flaps (FDMA, Kite)
 - Distant (RFFF)
 - Free