MUSCULOSKELETAL PROBLEMS in GENERAL PRACTICE

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Musculoskeletal Syndromes

- Musculoskeletal pain represents ~30% of outpatient visits
- Ambulatory care is emphasized

- PHYSICAL EXAM FINDINGS ARE EMPHASIZED ON THE EXAM

Regional pain cases are VERY well represented on the ABIM exam
A 32 year old previously healthy nurse, 1 month postpartum, notes 2-3 months of progressive pain in her right arm involving 3rd and 4th fingers, forearm and upper arm.

Pain awakens her from sleep and worsens while driving. It is associated with burning sensation of the forearm. She notes clumsiness of right hand and some pallor of the fingers with cold exposure.
The Tingling Nurse

Which physical maneuver is least likely to help in determining the etiology of her discomfort:

A. Spurling maneuver
B. Adsons test
C. Forearm BP cuff compression
D. Allen test
E. Monofilament sensory exam
The Tingling Nurse

Which physical maneuver will NOT help in determining the etiology of her discomfort:

A. Spurling maneuver
B. Adsons test
C. Forearm cuff compression
D. Allen test
E. Monofilament sensory exam
THE TINGLING NURSE

A 32 YEAR OLD PREVIOUSLY HEALTHY NURSE, 1 MONTH POST PARTUM, NOTES RECENT ONSET OF PROGRESSIVE PAIN IN HER RIGHT ARM INVOLVING 3rd and 4th FINGERS, FOREARM AND UPPER ARM. IT AWAKENS HER FROM SLEEP AND WORSENS WHILE DRIVING. IT IS AT TIMES ASSOCIATED WITH BURNING PAIN OF THE FOREARM. SHE NOTES CLUMSINESS OF RIGHT HAND AND SOME PALLOR OF THE FINGERS WITH COLD EXPOSURE.

EXAM: Normal neck motion, negative spurling and adsons tests, and normal shoulder exam. Pulses and allen test are normal. DTRs, filament sensation in hands, and strength are normal. Elbow exam is normal.
THE TINGLING NURSE

TEST LIKELY TO BE DIAGNOSTIC IS:

A. NERVE CONDUCTION OF DISTAL MEDIAN NERVE
B. MRI OF CERVICAL SPINE
C. UPPER EXTREMITY ANGIOGRAM
D. CHEMICAL SYMPATHETIC BLOCK
E. BECK DEPRESSION INDEX

But…beware of false positive EMG
CARPAL TUNNEL SYNDROME CAUSES INCLUDE:

- Wrist Synovitis
- Hypothyroidism
- Diabetes M
- Pregnancy
- Trauma
- Primary Amyloid
- Dialysis Related Amyloid
- Acromegaly.

“Routine” testing for unrecognized, asymptomatic disease:
VERY LOW YIELD

54% have Sx 1 YEAR LATER!
Neurol 59:1643-46, 2002
CARPAL TUNNEL SYNDROME
OBSERVATIONS

▪ DISSOCIATION BETWEEN CLINICAL COMPLAINTS and PHYSIOLOGIC STUDIES
  – SUBJECTIVE SENSE OF SWELLING

▪ RAYNAUDS COMMON
  – SYMPATHETIC FIBRES IN MEDIAN NERVE

▪ BEST TIMING for SURGERY: UNCLEAR
MISDIAGNOSIS OF CTS

- MOTOR NEURON DISEASE (4)
  - SUPERIMPOSED MILD MEDIAN NEUROPATHY
- CERVICAL SPINE DISEASE (2)
  - ALSO DIABETIC POLYNEUROPATHY
- PERIPHERAL NEUROPATHY (2)

FAILURE TO OBSERVE NON-MEDIAN NERVE NEUROLOGICAL FEATURES
DO A COMPLETE EXAMINATION
CARPAL TUNNEL SYNDROME
TREATMENT OPTIONS

SURGERY
STEREIOD INJECTION
ANTI-INFLAMMATORIES
NOCTURNAL SPLINTING
CONSERVATIVE, ERGONOMICS (?)
Dx UNDERLYING DISEASE
64 yo retired art teacher presents with pain in both wrists of 3 week duration, limiting her ability to play golf. She notes tingling and difficulty feeling and holding her clubs firmly. She complains of AM and nocturnal numbness with burning pain in her 2nd and 3rd fingers.

She has upper arm pain with difficulty on arising in am and difficulty with brushing her teeth and hair in the am due to upper arm pain. She has no symptoms elsewhere.
IT IS A HANDICAP

BEST TREATMENT OPTION (S):

A. SPLINT WRISTS IN NEUTRAL POSITION

B. A and STOP THE GOLF

C. A and BILATERAL CARPAL CANAL STEROID INJECTIONS

D. A and 15 mg PREDNISONE PO DAILY
CARPAL TUNNEL SYNDROME
TREATMENT OPTIONS

- **Surgery**

- **Corticosteroid Injection**

- **Anti-Inflammatories**

- **Nocturnal Splinting**

- **Conservative, Ergonomics**

**Dx Underlying Disease**

- Age >55
- Proximal UE / LE stiffness
- AM / nocturnal worsening
- No weakness
- ± Acute phase response
- ± GCA

**PMR**
POLYMYALGIA RHEUMATICA
PERIPHERAL MANIFESTATIONS

Salvarani et al. Arth Rheum 41:1221-26, 1998
IT’S MY KNEE....

56 YO OVERWEIGHT FEMALE WITH RADIOGRAPHIC OSTEOARTHRITIS OF THE RIGHT KNEE PRESENTS WITH A CC of INCREASING KNEE PAIN, MOST NOTABLE WHEN ARISING FROM A CHAIR or TOILET, WALKING UP STAIRS and IN BED AT NIGHT.

IT’S MY KNEE...

YOU SUGGEST:

A. Rx “full” DOSE NSAID TRIAL (had been using OTCs) with a PPI
B. QUAD FOCUSED STRENGTHENING REGIME
C. STEROID INJECTION – KNEE JOINT
D. STEROID INJECTION PES - ANSERINE BURSA
E. MEDIAL HEEL WEDGE
ANSWER: D

ANSERINE BURSITIS IS ONE OF THE MOST COMMON ETIOLOGIES OF MEDIAL KNEE PAIN.

COMMON IN OVERWEIGHT PATIENTS WITH VALGUS KNEE DEFORMITY.

PAIN IS REPRODUCED BY LOCAL PRESSURE BELOW THE JOINT LINE.

USUALLY DOES NOT RESPOND TO NSAIDs RESPONDS TO LOCAL INJECTION.
PES ANSERINE BURSA

JOINT LINE
PES ANSERINE BURSITIS

- **MEDIAL KNEE PAIN**
  - WORSE GOING UP STAIRS
  - NOCTURNAL PAIN
- **OFTEN BILATERAL**
- **FREQUENT** in OA
  - OBESITY
  - VALGUS DEFORMITY
- **RARELY DISTENDED**

PES ANSERINE BURSA

REMEMBER: SONK

JOINT LINE
SPONTANEOUS OSTEONECROSIS of the KNEE: “SONK”

- ACUTE SEVERE KNEE PAIN
  - ELDERLY
  - WOMEN > MEN

- + NORMAL XRAY
  - + BONE SCAN
  - + MRI DIAGNOSIS

- CONSTANT PAIN
  - SMALL, COOL EFFUSIONS COMMON
A case of butt pain

58yo male accountant developed sudden back, buttock pain radiating down the post-lateral aspect of his right leg while lifting a television 6 weeks ago. He is able to continue to do all of his work at home, and swim for exercise.

Despite attempts at physical therapy and appropriate rest his pain persists, increases with cough, standing or sitting.

No motor weakness. Preserved DTRs

He has a ++ SLR and MRI reveals disk herniation at the L5-S1 level.
A case of butt pain sciatica

58yo male accountant developed sudden back, buttock pain radiating down the post-lateral aspect of his right leg while lifting a television 6 weeks ago. He is able to continue to do all of his work at home, and swim for exercise.

You suggest:

A. Decompressive surgery
B. Microdiskectomy
C. Surgical consultation with continued PT anticipated for another 4 weeks
D. Radiofrequency nerve ablation
E. Imaging guided right sacroiliac joint steroid injection
Sciatica

- ~75% of patients are almost completely cured by 12 weeks with conservative management.
- Surgery improves symptom relief twice as fast as medical therapy
  - By ~1 year results are equivalent (caveat: substantial crossover in trials)
- There is no “window of opportunity” in planning the surgery

Vroomen et al  Br J Gen Pract 52:119-23, 2002
28 yo female presents postpartum complaining of 4 months of left thigh burning pain. She was told of carpal tunnel syndrome during her pregnancy, and has been wearing wrist splints.

Exam: bilateral wrist tinel's with a positive phalen's. Hip exam is normal with negative straight leg raise. Dtr's ARE PRESERVED. No motor weakness is detected. There is an area approx. the size of a hand with marked dysesthesia to light touch on the ant. lateral left thigh.
CONFIRMATORY TEST WOULD BE:

A. NERVE CONDUCTION STUDY OF SACRAL PLEXUS NERVES

B. TINELS OVER THE LATERAL INGUINAL LIGAMENT

C. PELVIC CT SCAN

D. MRI BRAIN and SPINAL CORD

E. A or C
MERALGIA PARESTHETICA

Entrapment of the lateral femoral cutaneous nerve, often as it exits through the lateral inguinal ligament. IT CAN BE Dx CLINICALLY AND USUALLY REQUIRES NO WORKUP OR Rx. It may accompany weight gain, constricting garments or seatbelts. Often self limiting, it may respond to local steroid injection.

Another diagnostic thought: pre - zoster neuralgia.
HONEY, OF COURSE I DIDN’T OVERDO IT……

A 48 YO RHEUMATOLOGIST NOTED, BUT MOST CERTAINLY *DID NOT* COMPLAIN OF, 6 WEEKS OF INITIALLY INTERMITTENT AND THEN PROGRESSIVE RIGHT ELBOW PAIN.

PAIN WAS NOTED 3 MONTHS AFTER PURCHASING ( A REALLY, REALLY, NICE HOME GYM WHICH WAS PLACED IN THE BEDROOM ).
HONEY, OF COURSE I DIDN’T OVERDO IT

CERTAIN EXERCISES, INCLUDING TRICEPS EXTENSIONS, WORSENED THE PAIN. IT PROGRESSED, MAKING HAND SHAKING DIFFICULT. IT WAS HARD FOR HIM TO HOLD HEAVY SKILLETS, TURN DOOR KNOBS OR USE HAND BRAKES ON A BIKE. THE PAIN WAS BURNING AND SHARP IN QUALITY.
HONEY, OF COURSE I DIDN’T OVERDO IT….

LIKELY DIAGNOSTIC TEST:

A. XRAY ELBOW
B. PRESS LATERAL EPICONDYLE
C. RESISTED EXTENSION OF MIDDLE FINGER
D. ULTRASOUND ANTECUBITAL AREA
E. TRIAL OF 325mg ASA NIGHTLY
LATERAL ELBOW PAIN
INITIAL DIFFERENTIAL Dx

- "TENNIS ELBOW" - EPICONDYLITIS
  - FIBROMYALGIA
- ELBOW SYNOVITIS
- PRESSURE NEUROPATHY
- RADICULOPATHY
- REFERRED PAIN
  - SHOULDER, SCAPULOCOSTAL, CTS
- BONE
“TENNIS ELBOW”
LATERAL EPICONDYLITIS

- ACUTE, INTERMITTENT, or CHRONIC
  - USUALLY UNILATERAL ~ 25% acute onset
  - BILATERAL: BE ALERT for FIBROMYALGIA
  - TYPICALLY LASTS 6 – 24mos

- LOCAL PAIN and TENDERNESS at, and DISTAL to the EPICONDYLE
  - PROVOCATIVE MANEUVERS INCREASE PAIN
    - RESISTED SUPINATION / FINGER EXTENSION
  - DECREASED GRIP
"TENNIS ELBOW"
LATERAL EPICONDYLITIS

TREATMENT

BEHAVIOR MODIFICATION
FROIMSON BAND THERAPY
"ANTIIINFLAMMATORY" Tx
INJECTION
High intensity usound
SURGERY

PHYSICAL THERAPY

NSAID PHORESIS??
?
38 yo female toll booth attendant with 16 year history of RA presents with R upper arm and shoulder pain. For past 3 weeks has had discomfort in upper lateral arm with sharp pains when putting on coat or reaching high into cabinets. 1 week awakening from sleep when lying on R side. <10 min of AM stiffness in hands, knees and shoulders. No trauma

Meds: MTX, folic acid, intermittent naproxen.

PE: prolif non tender 2,3 MCPs and wrists. Passive rom shoulders nontender. Active raising R arm or reaching behind back causes pain in deltoid area. No SC or AC joint tenderness. Neck motion and DTRs normal.
You recommend:

1. MRI C spine
2. Radiograph chest
3. Right GH joint steroid injection
4. Right subacromial space steroid injection
5. Increase the MTX or add 5 mg daily prednisone
PERIARTHRITIS of SHOULDER lateral approach to subacromial space

- APPLY LATERAL TRACTION to ARM
- FEEL LANDMARK CLAVICLE EDGE
- **Practice Pearl:** INJECT USING THIN (27 gauge) 1 ½” NEEDLE
SHOULDER PAIN

BEWARE:
PAIN WHICH IS NOT REPRODUCED BY JOINT MOVEMENT

- METASTASES
- LUNG MASS
- SUBDIAPHRAGMATIC
- CERVICAL

REFERRED PAIN