WIDE AWAKE HAND SURGERY IN THE OFFICE, AND OTHER NEW UPDATES

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BAY STREET ORTHOPAEDICS AND SPINE
6/16/2023
NMOA ANNUAL MEETING
DISCLOSURES

- None
LEARNING OBJECTIVES

- Better understanding of current practice guidelines and treatment options for common hand problems

- Better understanding of surgical options, including the benefits of wide awake hand surgery
ABOUT ME
CURRENT UPDATES ON CLASSIC CONDITIONS

- Carpal tunnel
- Trigger finger
- Basilar thumb arthritis
- De Quervain’s tenosynovitis
- Dupuytren’s contracture
CARPAL TUNNEL

- Painful numbness and tingling
- Worse at night
- Weakness
CARPAL TUNNEL – WORK UP

A. HAND-HELD NERVE CONDUCTION STUDY (NCS)
Limited evidence supports that a hand-held nerve conduction study (NCS) device might be used for the diagnosis of carpal tunnel syndrome.

B. MRI
Moderate evidence supports not routinely using MRI for the diagnosis of carpal tunnel syndrome.

C. DIAGNOSTIC ULTRASOUND
Limited evidence supports not routinely using ultrasound for the diagnosis of carpal tunnel syndrome.
**CTS-6 Evaluation Tool**

*The Value Added by Electrodagnostic Testing in the Diagnosis of Carpal Tunnel Syndrome*  
Brent Graham J Bone  
*Joint Surg Am.* 2008;90:2587-2593

<table>
<thead>
<tr>
<th>Symptoms and History</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Numbness predominantly or exclusively in the median nerve territory</td>
<td>(3.5)</td>
</tr>
<tr>
<td>Sensory symptoms are mostly in the thumb, index, middle and/or ring fingers</td>
<td></td>
</tr>
<tr>
<td>2. Nocturnal numbness</td>
<td>(4)</td>
</tr>
<tr>
<td>Symptoms are predominantly the patient sleep; numbness wakes patient from sleep</td>
<td></td>
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<table>
<thead>
<tr>
<th>Physical examination</th>
<th>Score</th>
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<tr>
<td>3. Thenar atrophy and/or weakness</td>
<td>(5)</td>
</tr>
<tr>
<td>The bulk the thenar area is reduced or where manual motor testing shows strength of grade 4 less</td>
<td></td>
</tr>
<tr>
<td>4. Positive Phalen’s test</td>
<td>(5)</td>
</tr>
<tr>
<td>Flexion of the wrist reproduces her worsened symptoms of numbness in the median nerve territory</td>
<td></td>
</tr>
<tr>
<td>5. Loss of 2 point discrimination</td>
<td>(4.5)</td>
</tr>
<tr>
<td>Failure to discriminate 2 points held 5 mm or less apart from one another, in the median innervated digits</td>
<td></td>
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<tr>
<td>6. Positive Tinel sign</td>
<td>(4)</td>
</tr>
<tr>
<td>Light tapping over the median nerve at the level of the carpal tunnel causing radiating paraesthesias</td>
<td></td>
</tr>
</tbody>
</table>

Total (26)

>12 = 0.80 probably of carpal tunnel syndrome  
>5 = 0.25 probably of carpal tunnel syndrome

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**DIAGNOSTIC SCALES**

Moderate evidence supports that diagnostic questionnaires and/or electrodagnostic studies could be used to aid the diagnosis of carpal tunnel syndrome.
CARPAL TUNNEL

NONOPERATIVE TREATMENTS FOR CARPAL TUNNEL SYNDROME

A. IMMobilization
Strong evidence supports that the use of immobilization (brace/splint/orthosis) should improve patient reported outcomes.

Strength of Recommendation: Strong Evidence ★★★★★

B. STEROID INJECTIONS
Strong evidence supports that the use of steroid (methylprednisolone) injection should improve patient reported outcomes.

Strength of Recommendation: Strong Evidence ★★★★★

D. ORAL TREATMENTS
Moderate evidence supports no benefit of oral treatments (diuretic, gabapentin, astaxanthin capsules, NSAIDs, or pyridoxine) compared to placebo.

Strength of Recommendation: Moderate Evidence ★★★★
CARPAL TUNNEL

SURGICAL RELEASE FOR CARPAL TUNNEL SYNDROME (CTS)
GUIDELINE RECOMMENDATIONS

A. SURGICAL RELEASE LOCATION
Strong evidence supports that surgical release of the transverse carpal ligament should relieve symptoms and improve function.

Strength of Recommendation: Strong Evidence ★★★★★

B. SURGICAL RELEASE PROCEDURE
Limited evidence supports that if surgery is chosen, a practitioner might consider using endoscopic carpal tunnel release based on possible short term benefits.

Strength of Recommendation: Limited Evidence ★★★★

C. SURGICAL PROCEDURES VERSUS NONOPERATIVE TREATMENTS
Strong evidence supports that surgical treatment of carpal tunnel syndrome should have a greater treatment benefit at 6 and 12 months as compared to splinting, NSAIDs/therapy, and a single steroid injection.

Strength of Recommendation: Strong Evidence ★★★★★
TRIGGER FINGER

- Painful triggering at the A1 pulley
- Natural history – continues to get worse
  - Can lead to stiffness or a “locked” trigger finger
  - Eventually lead to a joint contracture
**TRIGGER FINGER**

- **Treatment options**
  - NSAIDs, splinting
    - Better for early triggers
  - Steroid injection
    - 70% success rate
      - Less if diabetic, multiple triggers, more severe
  - Surgery
    - 98% success rate

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**Long-Term Effectiveness of Corticosteroid Injections for Trigger Finger and Thumb**

Juan Castellanos, MD, Ernesto Muñoz-Mahamid, MD, Enrique Dominguez, MD, Pablo Del Amo, MD, Oscar Izquierdo, MD, Pere Fillat, MD

**Randomized Controlled Trial**


**Corticosteroid injection in diabetic patients with trigger finger. A prospective, randomized, controlled double-blinded study**

Keith M Baumgarten †, David Gerlach, Martin I Boyer

**Conclusions:** Corticosteroid injections were significantly more effective in the digits of nondiabetic patients than in those of diabetic patients. In patients with diabetes, corticosteroid injections did not decrease the surgery rate or improve symptom relief compared with the placebo. The use of corticosteroid injections for the treatment of trigger finger may be less effective in patients with systemic manifestations of diabetes mellitus.
TRIGGER FINGER INJECTION
BASILAR THUMB ARTHRITIS

- Arthritis at thumb CMC joint
  - Due to attenuation of Beak ligament
  - 2nd most common place for arthritis in the hand
BASILAR THUMB ARTHRITIS

- NSAIDs, Bracing
  - Oral, Voltaren gel, CBD oil
  - Comfort cool brace
- Steroid injections
  - 1/3 of patients will undergo surgery within 5 years of an injection
- Surgery
BASILAR THUMB ARTHRITIS
DEQUERVAIN’S TENOSYNOVITIS

- Radial sided wrist pain from inflammation of the 1st dorsal compartment
- Women > men, 30-50 yrs old
- Most common in dominant wrist
- Risk factors
  - Overuse – golfers and racquet sports
  - Postpartum
DE QUERVAIN’S TENOSYNOVITIS - TREATMENT

- NSAIDS, rest, immobilization
  - Low compliance
- Steroid injection
  - Symptomatic relief is reported by about 50% of patients with a single injection. A second injection may provide relief in another 40% to 45% of patients
- Surgery
DUPUYTREN’S CONTRACTURE

- Genetic condition
- Abnormal growth of the palmar fascia
- Ring>small>middle>index
- Testing – tabletop test
DUPUYTREN’S CONTRACTURE - TREATMENT

- **Xiaflex injection**
  - MCP joints – correction to 5 degrees or less in 68%, 5 year reoccurrence in 39%
  - PIP joints – correction to 5 degrees or less in 36%, 5 year recurrence in 66%

- **Surgery**
  - MCP joints – correction to 5 degrees or less in 94%, 5 year reoccurrence in 17%
  - PIP joints – correction to 5 degrees or less in 25%, 5 year recurrence in 66%
WIDE AWAKE HAND SURGERY
WIDE AWAKE HAND SURGERY (WALANT)

- Elective
  - Carpal tunnel
  - Trigger finger
  - DeQuervain’s tenosynovitis
  - Mucous cyst
  - Retinacular cyst
  - Ganglion cyst

- Trauma
  - Nailbed lacerations
  - Foreign body removal
  - Extensor tendon repair
  - Flexor tendon repair
  - Infections
BENEFITS

- Safety
  - No current contraindications to in-office surgery
  - Avoids anesthesia. Safest sedation? – no sedation
    - No nausea, vomiting, urinary retention, or other side effects of anesthesia/opiates
    - No IV, no tourniquet
- Patient convenience
  - No NPO (great for diabetics)
  - No sedation
  - Less time
  - Don’t need a driver or someone to stay with them
  - No downtime from work
  - No preop testing- most cases don’t stop anticoagulation
BENEFITS

- Cost
  - Canadian studies show in office carpal tunnel 25% the cost of in operating room
  - US studies show 80-85% cost reduction
- Patient understanding and relationships
  - Can see their repaired structures, can see the tendons or fingers move
  - 10 minutes of in room time
  - Improved compliance
- Immediate testing of procedure results
  - Testing tendon repairs, tenolysis, trigger fingers
CONCERNS

- Infection
  - Multiple studies show no increased risk

- Pain
  - Important to give plenty of time for the injection to take affect

- Epinephrine injection
  - Multiple studies showing safety of injection around the fingers
  - Phentolamine available

Comparison of Complication Risk Following Trigger Digit Release Performed in the Office Versus the Operating Room: A Population-Based Assessment

Nikolas H. Kazmers, MD, MSE,* Kate Peacock, MPH,† Katelin B. Nickel, MPH,† Andrew R. Stephens, MD,* Margaret Olsen, PhD,† Andrew R. Tyser, MD†

Conclusions Compared with performing TDR in the OR using a spectrum of commonly used anesthesia types, performing TDR in the PR using local-only anesthesia was associated with a comparably low risk of major medical complications, surgical complications, and iatrogenic complications. *(J Hand Surg Am. 2021;46(10):877–887. Copyright © 2021 by the American Society for Surgery of the Hand. All rights reserved.)*
TECHNIQUE

- Patients arrive 40 minutes prior to scheduled surgery time
- 1:100,000 epinephrine and lidocaine injection
  - Plain lidocaine and finger tourniquet for fingertip surgery
- 30 minutes to set up and allow maximum epi affect (26 min)
- Separate procedural space
- Field sterility
MY EXPERIENCE

- Started in December
- 157 cases (and counting!)
  - Mostly elective surgery
  - Increased patient comprehension and report
  - Increases patient access
QUESTIONS

Thank you!

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