Guideline Summary NGC-5681

Guideline Title
Elbow disorders.

Bibliographic Source(s)

Guideline Status
This is the current release of the guideline.

This guideline updates a previous version: Elbow complaints. Elk Grove Village (IL): American College of Occupational and Environmental Medicine (ACOEM); 2004. 25 p.

The Guidelines are currently being updated on a 3-year rolling process.

FDA Warning/Regulatory Alert
Note from the National Guideline Clearinghouse: This guideline references a drug(s) for which important revised regulatory and/or warning information has been released.

- December 7, 2009 - Voltaren (diclofenac): Endo, Novartis and U.S. Food and Drug Administration (FDA) notified healthcare professionals of revisions to the Hepatic Effects section of the Prescribing Information to add new warnings and precautions about the potential for elevation in liver function tests during treatment with all products containing diclofenac sodium.

Scope

Disease/Condition(s)
Elbow disorders

Guideline Category
Diagnosis
Evaluation
Management
Treatment

Clinical Specialty
Family Practice
Internal Medicine
Orthopedic Surgery
Physical Medicine and Rehabilitation
Preventive Medicine
Sports Medicine
Surgery

Intended Users
Advanced Practice Nurses
Nurses
Occupational Therapists
Physical Therapists
Physician Assistants
Physicians
Utilization Management

Guideline Objective(s)
- To update the 2004 American College of Occupational and Environmental Medicine's (ACOEM's) Guidelines on
Elbow Complaints

- To help improve or restore the health of those workers who incur occupationally related illnesses or injuries
- To present essential evidence-based information to address the injured worker's functional impairment and safely return him or her to work

Target Population

Adults with potentially work-related elbow complaints seen in primary care settings

Interventions and Practices Considered

Note from the National Guideline Clearinghouse (NGC): The following general clinical measures were considered. Refer to the original guideline document for information regarding which specific interventions and practices under these general headings are recommended, recommended against, or for which there is no recommendation by the American College of Occupational and Environmental Medicine (ACOEM).

1. History and physical exam
2. Patient education
3. Medication
4. Physical treatment methods
5. Injections
6. Orthotics and immobilization
7. Activity and exercise
8. Detection of neurologic abnormalities
9. Radiography and other imaging studies
10. Surgical considerations

Major Outcomes Considered

- Validity of diagnostic tests
- Effectiveness of treatment in terms of pain/symptom relief, return of function, and return to work
- Cost of treatment
- Side effects of treatment

Methodology

Methods Used to Collect/Select the Evidence

Searches of Electronic Databases

Description of Methods Used to Collect/Select the Evidence

The process begins with the identification of high-quality original research studies on a topic, as well as high- and intermediate-quality systematic reviews and meta-analyses relevant to each topic. Only evidence with the highest available rating (e.g., randomized controlled trials [RCTs]) is selected for critical appraisal.

Number of Source Documents

Not stated

Methods Used to Assess the Quality and Strength of the Evidence

Expert Consensus

Weighting According to a Rating Scheme (Scheme Given)

Rating Scheme for the Strength of the Evidence

Strength of Evidence Ratings

A: Strong evidence-base: One or more well-conducted systematic reviews or meta-analyses, or two or more high-quality studies.¹

B: Moderate evidence-base: At least one high-quality study, a well-conducted systematic review or meta-analysis of lower quality studies,² or multiple lower-quality studies relevant to the topic and the working population.

C: Limited evidence-base: At least one study of intermediate quality.

I: Insufficient evidence: Evidence is insufficient or irreconcilable.

¹For therapy and prevention - randomized controlled trials (RCTs) with narrow confidence intervals and minimal heterogeneity.

²For diagnosis and screening - cross sectional studies using independent gold standards.

For prognosis - etiology or harms, prospective cohort studies with minimal heterogeneity.
For therapy and prevention - a well-conducted review of cohort studies.

For prognosis - etiology or harms, a well-conducted review of retrospective cohort studies or untreated control arms of RCTs.

Methods Used to Analyze the Evidence
Review of Published Meta-Analyses

Systematic Review with Evidence Tables

Description of the Methods Used to Analyze the Evidence

As part of the update process, American College of Occupational and Environmental Medicine (ACOEM) adopted a new more meticulous strength-of-evidence rating methodology. The enhanced methodology incorporates the highest scientific standards for reviewing evidence-based literature, thus ensuring the most rigorous, reproducible, and transparent occupational health guidelines available.

Each article that meets the inclusion criteria is reviewed and critically appraised. Randomized controlled trials (RCTs) that meet inclusion criteria are scored on 11 criteria (see table below). Each criterion is scored 0.0, 0.5 or 1.0. These individual ratings are summed up, resulting in an overall rating that ranges from 0 to 11.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Rating Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Randomization</td>
<td>Assessment of the degree that randomization was both reported to have been performed and successfully achieved through analyses of comparisons of variables between the two groups.</td>
</tr>
<tr>
<td>Treatment Allocation Conceived</td>
<td>Concealment of the allocation scheme from all involved, not just the patient.</td>
</tr>
<tr>
<td>Baseline Comparability</td>
<td>Measurement of how well the baseline groups are comparable (e.g., age, gender, prior treatment).</td>
</tr>
<tr>
<td>Patient Blinded</td>
<td>Blinding of the patient/subject to the treatment administered.</td>
</tr>
<tr>
<td>Provider Blinded</td>
<td>Blinding of the provider to the treatment administered.</td>
</tr>
<tr>
<td>Assessor Blinded</td>
<td>Blinding of the assessor to the treatment administered.</td>
</tr>
<tr>
<td>Controlled for Co-intervention</td>
<td>The degree to which the study design controlled for multiple interventions (e.g., a combination of stretching exercises and anti-inflammatory medication or mention of not using other treatments during the study).</td>
</tr>
<tr>
<td>Compliance Acceptable</td>
<td>Measurement of the degree of non-compliance.</td>
</tr>
<tr>
<td>Dropout Rate</td>
<td>Measurement of the drop-out rate.</td>
</tr>
<tr>
<td>Timing of Assessments</td>
<td>Assessment of whether the timing of measurements of effects is the same between treatment groups.</td>
</tr>
<tr>
<td>Analyzed by Intention to Treat</td>
<td>Ascertainment of whether the study was analyzed with an intent-to-treat analysis.</td>
</tr>
</tbody>
</table>

The rating is then converted into a quality grade—low quality (0-3.5), intermediate quality (4.0-7.5), or high quality (8.0-11.0). Critique of meta-analyses and systematic reviews is based on standardized, acceptable techniques; search methods reported; comprehensiveness of the search; reporting of inclusion criteria; intervention; avoidance of selection bias; reporting and appropriate assessment of validity criteria; and, for meta-analyses only, documentation regarding methods used to combine studies and the degree to which findings are appropriately combined. Studies are abstracted into evidence tables that include details of study methods, outcomes, and statistical analyses. Panels of experts (Evidence-based Practice Panels) then use the tables to grade the strength of evidence in order to develop the evidence-based guidelines. Evidence is drawn from individual studies, systematic reviews, and meta-analyses. Strength-of-evidence ratings are categorized as A, B, C, or I (Refer to the Rating Scheme for the Strength of the Evidence field).

Methods Used to Formulate the Recommendations

Expert Consensus

Description of Methods Used to Formulate the Recommendations

Development of Recommendations

In formulating recommendations, the expert Panels begin by reviewing the articles and evidence tables, followed by discussions to agree on the strength-of-the-evidence ratings (A, B, C, or I). Panels then draft recommendations with citation of references for each recommendation. "First principles" are observed in formulating recommendations as follows:

- Imaging or testing should generally be done to confirm a clinical impression.
- Tests should affect the course of treatment.
- Treatments should improve on the natural history of the disorder, which in many cases is recovery without treatment.
- Invasive treatment should be preceded by adequate conservative treatment and may be performed if conservative treatment does not improve the health problem.
- The more invasive and permanent, the more caution should be exerted in considering invasive tests or treatments and the stronger should be the evidence of efficacy.
- The more costly the test or intervention, the more caution should be generally exerted prior to ordering the test or treatment and the stronger should be the evidence of efficacy.
- Testing/treatment decisions should be a collaboration between the clinician and patient with full disclosure of benefits and risks.
- Treatment should not create dependence or functional disability.

Health benefits, side effects, and risks are explicitly considered and discussed in formulating recommendations.
Benefits should significantly exceed risks. Each recommendation specifies to which clinical problem it relates and is linked to the evidence. Recommendations not based on expert consensus are linked to a list of references.

Rating Scheme for the Strength of the Recommendations

The criteria for American College of Occupational and Environmental Medicine (ACOEM) evidence-based recommendations are as follows:

<table>
<thead>
<tr>
<th>Recommendation Category</th>
<th>Evidence Rating</th>
<th>Description of Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Recommended</td>
<td>A</td>
<td>The intervention is strongly recommended for appropriate patients. The intervention improves important health and functional outcomes based on high quality evidence, and the Evidence-based Practice Panel (EBPP) concludes that benefits substantially outweigh harms and costs.</td>
</tr>
<tr>
<td>Moderately Recommended</td>
<td>B</td>
<td>The intervention is recommended for appropriate patients. The intervention improves important health and functional outcomes based on intermediate quality evidence that benefits substantially outweigh harms and costs.</td>
</tr>
<tr>
<td>Recommended</td>
<td>C</td>
<td>The intervention is recommended for appropriate patients. There is limited evidence that the intervention may improve important health and functional benefits.</td>
</tr>
<tr>
<td>Insufficient - Recommended (Consensus-based)</td>
<td>I</td>
<td>The intervention is recommended for appropriate patients and has nominal costs and low potential for harm. The EBPP believes that the intervention constitutes best medical practice to acquire or provide information in order to best diagnose and treat a health condition and restore function in an expeditious manner. The EBPP makes no recommendation. Evidence that the intervention is effective is lacking, of poor quality, or conflicting and the balance of benefits, harms, and costs cannot be determined.</td>
</tr>
<tr>
<td>Insufficient - No Recommendation (Consensus-based)</td>
<td>I</td>
<td>The evidence is insufficient to recommend for or against routinely providing the intervention. The EBPP makes no recommendation. Evidence that the intervention is effective is lacking, of poor quality, or conflicting and the balance of benefits, harms, and costs cannot be determined.</td>
</tr>
<tr>
<td>Insufficient - Not Recommended (Consensus-based)</td>
<td>I</td>
<td>The evidence is insufficient for an evidence-based recommendation. The intervention is not recommended for appropriate patients because of high costs/high potential for harm to the patient.</td>
</tr>
<tr>
<td>Not Recommended</td>
<td>C</td>
<td>Recommendation against routinely providing the intervention. The EBPP found at least intermediate evidence that harms and costs exceed benefits based on limited evidence.</td>
</tr>
<tr>
<td>Moderately Not Recommended</td>
<td>B</td>
<td>Recommendation against routinely providing the intervention to eligible patients. The EBPP found at least intermediate evidence that the intervention is ineffective, or that harms or costs outweigh benefits.</td>
</tr>
<tr>
<td>Strongly Not Recommended</td>
<td>A</td>
<td>Strong recommendation against providing the intervention to eligible patients. The EBPP found high quality evidence that the intervention is ineffective, or that harms or costs outweigh benefits.</td>
</tr>
</tbody>
</table>

Cost Analysis

A formal cost analysis was not performed and published cost analyses were not reviewed.

Method of Guideline Validation

External Peer Review

Internal Peer Review

Description of Method of Guideline Validation

Several organizations and their representatives served as reviewers of the elbow chapter, including the Academy of Organizational & Occupational Psychiatry, American Association of Occupational Health Nurses, American Occupational Therapy Association, American Physical Therapy Association. The chapter was approved by the American College of Occupational and Environmental Medicine’s Board of Directors on April 9, 2007.

Recommendations

Major Recommendations

Definitions for the strength of evidence ratings (A, B, C, and I) and the criteria for evidence-based recommendations are presented at the end of the "Major Recommendations" field.

General Summary of Recommendation

Recommendations for Assessing and Treating Patients with Elbow Disorders

- The initial assessment of patients with acute and subacute elbow problems should focus on detecting clinical indications of potentially serious disease, termed red flags, and determining an accurate diagnosis.
- In the absence of red flags, health care providers can safely and effectively manage work-related elbow disorders. Management should focus on monitoring patients for complications, facilitating the healing process, and returning the individual to modified, alternative, or full-duty work.
- One role of the physician or other health care provider (e.g., physical therapist, occupational therapist, nurse, etc.) is to identify and correct or modify the offending or aggravating activity. Consultation with a qualified professional trained in ergonomic analyses can be helpful. Equipment may need to be serviced or adjusted to reduce the force required to accomplish a job task or to reduce vibration. Posture and work technique may need to be changed to address, for example, excessive grip force, contact pressure, or sustained wrist extension. Ergonomic biomechanical advice on the efficient use of the elbow is helpful. For example, with lateral epicondylalgia/epicondylitis/tendinosis, it is generally correct to lift with palm up and not palm down to reduce stress on the lateral elbow (caused by resisted wrist extension). For medial epicondylalgia/epicondylitis/tendinosis, it is generally correct to lift palm down to avoid stress on the medial elbow (caused by resisted wrist flexion).
- Relieving discomfort can be accomplished most safely by temporarily decreasing or modifying the offending
activities and by prescribing systemic or topical non-prescription analgesics along with an adjustable, properly fitted elbow support. Patients recovering from acute and subacute elbow problems should be encouraged to continue working. Modified duty may be recommended if appropriate.

- In general, immobilization should be avoided. An exception is immediately after surgery where brief immobilization may be required. Wrist splinting is sometimes utilized. However, some experts believe splinting potentially contributes to elbow pain. When immobilization is utilized, range-of-motion exercises should involve the elbow, wrist, as well as the shoulder, to avoid frozen shoulder ("adhesive capsulitis").

- If significant symptoms causing self-limitations or restrictions persist beyond 4 to 6 weeks, referral for specialty evaluation (e.g., occupational medicine, physical medicine and rehabilitation, or orthopaedic surgery) may be indicated to assist in the confirmation of the provisional diagnosis and in the determination of further management.

- A careful search for regional or systemic symptoms, signs, and disorders should be undertaken particularly in cases of chronic or persistent problems. As there is not scientific consensus on categorization of symptoms, for purposes of discussion, acute symptoms are defined as those presenting for less than 1 month; subacute symptoms, 1 to 3 months; and chronic symptoms, greater than 3 months.

- Non-physical factors (i.e., psychiatric, psychosocial, workplace, or socioeconomic issues) should be investigated and addressed, particularly in cases of delayed recovery or delayed return to work. These factors are often not overt and specific inquiries are required to identify these issues.

It is important to note that many of these conditions, particularly lateral epicondylalgia or epicondylitis and other tendinoses, tend to resolve spontaneously (e.g., see "wait and see" groups within studies of corticosteroid injections in the original guideline document). Thus, in evaluating research studies, including prospective studies that do not include a placebo control, caution should be exerted as results may be interpreted as showing benefit even when there is not true improvement from the therapy beyond normal spontaneous resolution.

**Summary of Recommendations for Evaluating and Managing Elbow Disorders** (refer to the original guideline document for more detailed information)

<table>
<thead>
<tr>
<th>Clinical Measure</th>
<th>Treatment with Evidence Rating/Recommendation Level</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>History/physical exam</strong></td>
<td>Occupational and non-occupational activity history (C)</td>
</tr>
<tr>
<td>Basic history and exam -- (search for red flags for tumor, infection, systemic disease) (I)</td>
<td></td>
</tr>
<tr>
<td><strong>Patient education</strong></td>
<td>Patient education regarding diagnosis, prognosis, expectations of treatment, and return to work. (I).</td>
</tr>
<tr>
<td><strong>Medication</strong></td>
<td>Oral nonsteroidal anti-inflammatory drugs (NSAIDs) (Rosenthal, 1984; Adealaar, Maddy, &amp; Enroch, 1987; Stull &amp; Joki, 1986; Labelle &amp; Guibert, 1997) (B)</td>
</tr>
<tr>
<td>Topical NSAIDs (Ritchie, 1996; Saggini et al., 1996; Baskurt, Ozcan, &amp; Algun, 2003; Burnham et al., 1998; Schapira, Linn, &amp; Scharf, 1991; Krol, Wiseman, Guttadura, 1989; Spacca et al., 2005) (B)</td>
<td></td>
</tr>
<tr>
<td>Acetaminophen (I)</td>
<td></td>
</tr>
<tr>
<td>Aspirin (I)</td>
<td></td>
</tr>
<tr>
<td>Ketamine gel for neuropathic pain (I)</td>
<td></td>
</tr>
<tr>
<td>NSAIDs for ulnar neuropathies (I)</td>
<td></td>
</tr>
<tr>
<td>Systemic antibiotics and aspiration/drainage for infected bursa (I)</td>
<td></td>
</tr>
<tr>
<td><strong>Physical treatment methods</strong></td>
<td>Ultrasound treatment for epicondylalgia (Nimgade, Sullivan, &amp; Goldman, 2005; Trudel et al., 2004; Bisset et al., 2005; Piennimaki et al., 1996; Halle, Franklin, &amp; Karafila, 1986; Klaiman et al., 1998; Lundeberg, Abrahamsson, &amp; Haker, 1988; D’Vaz et al., 2006; Binder et al., 1985; Haker &amp; Lundeberg “Pulsed ultrasound treatment”, 1991; Smidt et al., 2003; van der Windt et al., 1999) (B)</td>
</tr>
<tr>
<td>Iontophoresis for epicondylalgia with either glucocorticoid or diclofenac (Nirschl et al., 2003; Runeson &amp; Haker, 2002; Demirtas &amp; Oner, 1998) (C)</td>
<td></td>
</tr>
<tr>
<td>At-home applications of heat or cold packs for comfort (I)</td>
<td></td>
</tr>
<tr>
<td>Acupuncture for epicondylalgia (I)</td>
<td></td>
</tr>
<tr>
<td>Manipulation (I)</td>
<td></td>
</tr>
<tr>
<td>Massage (I)</td>
<td></td>
</tr>
<tr>
<td>Friction massage (I)</td>
<td></td>
</tr>
<tr>
<td>Soft tissue mobilization (I)</td>
<td></td>
</tr>
<tr>
<td>TENS (I)</td>
<td></td>
</tr>
<tr>
<td>Biofeedback (I)</td>
<td></td>
</tr>
<tr>
<td>Electrical stimulation (I)</td>
<td></td>
</tr>
<tr>
<td>Magnets (I)</td>
<td></td>
</tr>
<tr>
<td>Diathermy (I)</td>
<td></td>
</tr>
<tr>
<td><strong>Injections</strong></td>
<td>Local corticosteroid injections for medial and lateral epicondylalgia have evidence of short-term efficacy while simultaneous acute symptoms are defined as efficacious. Should only be considered after 3–4 weeks of conservative treatment has failed. (Smidt et al., 2002; Bisset et al.,</td>
</tr>
<tr>
<td>Corticosteroid injection into olecranon bursa only after failure of initial care (I)</td>
<td></td>
</tr>
<tr>
<td>Autologous blood injection (I)</td>
<td></td>
</tr>
<tr>
<td>Orthotics and Immobilization</td>
<td>Botulinum toxin injection for lateral epicondylalgia (I)</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>-----------------------------------------------------</td>
</tr>
<tr>
<td>Protection, rest, ice, compression, elevation, and mobilization for contusion (I)</td>
<td>Protection, rest, ice, compression, elevation, and mobilization for contusion (I)</td>
</tr>
<tr>
<td>Limited (i.e., sling or posterior elbow splint) and then early mobilization for non-displaced radial head fracture (I)</td>
<td>Limited (i.e., sling or posterior elbow splint) and then early mobilization for non-displaced radial head fracture (I)</td>
</tr>
<tr>
<td>Epicondylalgia supports for epicondylalgia (I)</td>
<td>Epicondylalgia supports for epicondylalgia (I)</td>
</tr>
<tr>
<td>Dynamic extensor brace for lateral epicondylalgia (I)</td>
<td>Dynamic extensor brace for lateral epicondylalgia (I)</td>
</tr>
<tr>
<td>Wrist splinting for epicondylalgia (I)</td>
<td>Wrist splinting for epicondylalgia (I)</td>
</tr>
<tr>
<td>Wrist splinting for radial tunnel syndrome (I)</td>
<td>Wrist splinting for radial tunnel syndrome (I)</td>
</tr>
<tr>
<td>Nocturnal elbow splinting for ulnar neuropathy (I)</td>
<td>Nocturnal elbow splinting for ulnar neuropathy (I)</td>
</tr>
<tr>
<td>Daytime padding for ulnar neuropathies at the elbow (I)</td>
<td>Daytime padding for ulnar neuropathies at the elbow (I)</td>
</tr>
<tr>
<td>Avoidance of leaning on the ulnar nerve at the elbow for ulnar neuropathies (I)</td>
<td>Avoidance of leaning on the ulnar nerve at the elbow for ulnar neuropathies (I)</td>
</tr>
<tr>
<td>Avoidance of prolonged hyperflexion of the elbow for ulnar neuropathies (I)</td>
<td>Avoidance of prolonged hyperflexion of the elbow for ulnar neuropathies (I)</td>
</tr>
<tr>
<td>Padding the elbow for sterile effusion of the olecranon bursa (I)</td>
<td>Padding the elbow for sterile effusion of the olecranon bursa (I)</td>
</tr>
<tr>
<td>Posterior splint for elbow dislocation (I)</td>
<td>Posterior splint for elbow dislocation (I)</td>
</tr>
<tr>
<td>Shoulder sling for elbow sprain (I)</td>
<td>Shoulder sling for elbow sprain (I)</td>
</tr>
<tr>
<td>Wrist brace for pronator syndrome (I)</td>
<td>Wrist brace for pronator syndrome (I)</td>
</tr>
</tbody>
</table>

Activity/Exercise

Exercise instruction by a therapist for epicondylalgia (I)

Physician recommendations for range-of-motion instruction and strengthening exercises in epicondylalgia patients (I)

Stretching (I)

Aerobic exercise (I)

Activity modification (I)

Workstation modifications (I)

Detection of Neurologic Abnormalities

Nerve conduction studies (NCS) to confirm ulnar nerve entrapment if conservative treatment fails (I)

NCS to distinguish radial entrapment from lateral epicondylitis if history and physical exam are equivocal and conservative treatment fails (I)

Radiography/Other Imaging Studies

Magnetic resonance imaging (MRI) for suspected ulnar collateral ligament tears (C)

Plain-film radiography for red-flag cases (I)

Repeat plain-film radiography for readings with "fat pad sign" (I)

MRI for suspected epicondylalgia (I)

Surgical Considerations

Simple decompression for ulnar nerve entrapment (Nabhan et al., 2005; Bartels et al., 2005; Biggs & Curtis, 2006; Gervasio et al., 2005; C)

Simple ulnar nerve release for patients with significant activity limitation and delayed NCS (C)

Anterior transposition for ulnar nerve entrapment in patients with significant activity limitation and delayed NCS or failed simple release (I)

Excision for infected olecranon bursitis if not responsive to intravenous (IV) antibiotics, aspiration and drainage (I)

Radial tunnel decompression for failure of conservative treatment and positive electrodiagnostic studies (I)

Debridement of inflammatory or scarred tissue for patients with epicondylalgia if conservative treatment fails (I)

Surgery for biceps rupture (I)

Surgery after at least 6 months of conservative treatment with failure to show signs of improvement (at least 3 months in unusual circumstances) (I)

Submuscular transposition of the ulnar nerve at the elbow (Biggs & Curtis, 2006; Gervasio et al., 2005; C)

Excision of olecranon bursa due to metabolic arthritis before appropriate medical treatment (I)

Medical epicondylectomy for ulnar neuropathy (I)

Ulnar nerve surgery in the presence of normal electrical studies (I)

Summary of Recommendations by Elbow Condition (refer to the original guideline document for more detailed information)
## Elbow Conditions and Treatment with Evidence Rating/Recommendation Level

<table>
<thead>
<tr>
<th>Elbow Condition</th>
<th>Recommended</th>
<th>No Recommendation</th>
<th>Not Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contusion</td>
<td>Protection, rest, ice, compression, elevation, and mobilization (I)</td>
<td></td>
<td>Corticosteroid injection as part of initial care (I)</td>
</tr>
<tr>
<td>Olecranon Bursitis (Aseptic)</td>
<td>Soft padding of the elbow (I) Modifying activities to avoid direct pressure over the olecranon (I) Surgery if after at least 6 weeks of conservative treatment with failure to show signs of improvement (I)</td>
<td>Corticosteroid injection for persistent symptoms (I)</td>
<td></td>
</tr>
<tr>
<td>Olecranon Bursitis (Septic)</td>
<td>Elbow padding (I) Avoid direct pressure (I) Aspiration and antibiotics (I) Surgery (I)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-displaced Radial Head Fracture</td>
<td>Sling/splint for 7 days followed by gentle range of motion exercises then progressive mobilization. Range-of-motion exercises should involve the elbow, but also the shoulder and wrist. A shorter immobilization period of as little as 3 days may be used for non-displaced fractures that are clinically present but not visible on x-ray. (I)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dislocation of the Elbow</td>
<td>Post-reduction x-rays and examination necessary (I) Posterior splint for 10 days (I) Range-of-motion exercises after immobilization. Range-of-motion exercises should involve the elbow, but also the shoulder and wrist. (I) Nonsteroidal antiinflammatory drugs (NSAIDs) (I)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sprain of the Elbow</td>
<td>NSAIDs (I) Shoulder sling may be used for up to 1 week (I) Gentle range-of-motion exercises of the elbow, but including the shoulder and wrist (I)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Biceps Tendinosis</td>
<td>Sling for severe cases with gentle range-of-motion exercises of the elbow, but including the shoulder and wrist (I) NSAIDs (I) Activity limitations (I)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ulnar Nerve Entrapment (including Cubital Tunnel Syndrome)</td>
<td>Avoid prolonged hyperflexion of elbow (I) Elbow padding (I) Avoid leaning on elbow (I) NSAIDs (I) Simple decompression (Nabhan et al., 2005; Bartels et al., 2005; Biggs &amp; Curtis, 2006; Gervasio et al., 2005) (C) Anterior transposition after 3 to 6 months (rare cases) (I)</td>
<td>Submuscular transposition (Biggs &amp; Curtis, 2006; Gervasio et al., 2005) (C) Medial epicondylectomy for ulnar neuropathy (I)</td>
<td></td>
</tr>
<tr>
<td>Radial Nerve Entrapment (including Radial Tunnel Syndrome)</td>
<td>NSAIDs (I) Confirmatory electro-diagnostic study helpful (I) Wrist splint for periodic daytime use (I) Surgery after at least 6 months of conservative treatment with failure to show signs of improvement (at least 3 months in unusual circumstances) (I)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pronator Syndrome</td>
<td>NSAIDs (I) Activity modifications (I) Confirmatory electrodiagnostic study helpful (I) Wrist brace (I) Surgery after at least 6 months of conservative treatment with failure to show signs of improvement (at least 3 months in unusual circumstances) (I)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lateral</td>
<td>Acetaminophen (I) Botulinum toxin Extracorporeal shock wave therapy (Bisset et al., 2005)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Epicondylalgia (Lateral Epicondylitis)</td>
<td>Aspirin (I)</td>
<td>Injection (I)</td>
<td></td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>------------</td>
<td>--------------</td>
<td></td>
</tr>
<tr>
<td>Heat or cold packs (I)</td>
<td>Massage (I)</td>
<td>Friction massage (I)</td>
<td></td>
</tr>
<tr>
<td>Topical NSAIDs (Ritchie, 1996; Saggini et al., 1996; Baskurt, Ozcan, &amp; Alguy, 2003; Bumham et al., 1998; Schapira, Linn, &amp; Scharf, 1991; Kroll, Wiseman, &amp; Guttadauria, 1989; Spacca et al., 2005) (B)</td>
<td>Soft tissue mobilization (I)</td>
<td>Transcutaneous electrical neurostimulation (TENS) (I)</td>
<td></td>
</tr>
<tr>
<td>Oral NSAIDs (Rosenthal, 1984; Adelaar, Maddy, &amp; Emroch, 1987; Stull &amp; Jokl, 1986; Labelle &amp; Guibert, 1997) (B)</td>
<td>Biofeedback (I)</td>
<td>Electrical stimulation (I)</td>
<td></td>
</tr>
<tr>
<td>Home exercise (I)</td>
<td>Magnets (I)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Epicondylalgia supports (I)</td>
<td>Diathermy (I)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Activity modification (I)</td>
<td>Manipulation (I)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Workstation modifications (I)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ultrasound (Nimgade, Sullivan, &amp; Goldman, 2005; Trudel et al., 2004; Bisset et al., 2005; Pienimaki et al., 1996; Halle, Franklin, &amp; Karalfa, 1986; Klaiman et al., 1998; Lundeberg, Abrahamsson, &amp; Haker, 1988; D’Vaz et al., 2006; Binder et al., 1985; Haker &amp; Lundeberg “Pulsed ultrasound treatment”, 1991; Smidt et al., 2003; van der Windt et al., 1999) (B)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Iontophoresis (Nirschl et al., 2003; Runeson &amp; Haker, 2002; Demirtas &amp; Oner, 1998) (C)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cortisone with bupivacaine (Solveborn et al., 1995) (C)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local corticosteroid injections (Smidt et al., 2002; Bisset et al., 2006; Price et al., 1991; Lewis et al., 2005; Verhaar et al., 1995; Altay, Gunal, &amp; Ozturk, 2002; Newcomer et al., 2001; Hay et al., 1999; Saartok &amp; Eriksson, 1986; Solveborn et al., 1995; Nimgade, Sullivan, &amp; Goldman, 2005; Trudel et al., 2004) (B)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surgery after at least 6 months of conservative treatment with failure to show signs of improvement (at least 3 months in unusual circumstances) (I)</td>
<td>Same recommendations as lateral epicondylalgia above</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Medial Epicondylalgia (Medial Epicondylitis)</th>
<th>Same recommendations as lateral epicondylalgia above</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity modification (I)</td>
<td>Same recommendations as lateral epicondylalgia above</td>
</tr>
<tr>
<td>Workstation modification (I)</td>
<td>Same recommendations as lateral epicondylalgia above</td>
</tr>
<tr>
<td>Iontophoresis (Nirschl et al., 2003) (C)</td>
<td></td>
</tr>
<tr>
<td>Corticosteroid injections (Stahl &amp; Kaufman, 1997) (B)</td>
<td></td>
</tr>
<tr>
<td>Surgery after at least 6 months of conservative treatment with failure to show signs of improvement (at least 3 months in unusual circumstances) (I)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Biceps Rupture</th>
<th>Surgery (I)</th>
</tr>
</thead>
</table>

**Definitions:**

**Strength of Evidence Ratings**

**A: Strong evidence-base:** One or more well-conducted systematic reviews or meta-analyses, or two or more high-quality studies.¹

**B: Moderate evidence-base:** At least one high-quality study, a well-conducted systematic review or meta-analysis of lower quality studies,² or multiple lower quality studies relevant to the topic and the working population.

**C: Limited evidence-base:** At least one study of intermediate quality.

**I: Insufficient evidence:** Evidence is insufficient or irreconcilable.

¹For therapy and prevention - randomized controlled trials (RCTs) with narrow confidence intervals and minimal heterogeneity.

²For diagnosis and screening - cross sectional studies using independent gold standards.

For prognosis, etiology or harms, prospective cohort studies with minimal heterogeneity.

²For therapy and prevention - a well-conducted review of cohort studies.

For prognosis - etiology or harms, a well-conducted review of retrospective cohort studies or untreated control arms of RCTs.
Categories of Evidence-based Recommendations

<table>
<thead>
<tr>
<th>Recommendation Category</th>
<th>Evidence Rating</th>
<th>Description of Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Recommended</td>
<td>A</td>
<td>The intervention is strongly recommended for appropriate patients. The intervention improves important health and functional outcomes based on high quality evidence, and the Evidence-based Practice Panel (EBPP) concludes that benefits substantially outweigh harms and costs.</td>
</tr>
<tr>
<td>Moderately Recommended</td>
<td>B</td>
<td>The intervention is recommended for appropriate patients. The intervention improves important health and functional outcomes based on intermediate quality evidence that benefits substantially outweigh harms and costs.</td>
</tr>
<tr>
<td>Recommended</td>
<td>C</td>
<td>The intervention is recommended for appropriate patients. There is limited evidence that the intervention may improve important health and functional benefits.</td>
</tr>
<tr>
<td>Insufficient - Recommended (Consensus-based)</td>
<td>I</td>
<td>The intervention is recommended for appropriate patients and has nominal costs and low potential for harm. The EBPP feels that the intervention constitutes best medical practice to acquire or provide information in order to best diagnose and treat a health condition and restore function in an expeditious manner. The EBPP believes based on the body of evidence, first principles, and/or collective experience that patients are best served by these practices, although the evidence is insufficient for an evidence-based recommendation.</td>
</tr>
<tr>
<td>Insufficient - No Recommendation (Consensus-based)</td>
<td>I</td>
<td>The evidence is insufficient to recommend for or against routinely providing the intervention. The EBPP makes no recommendation. Evidence that the intervention is effective is lacking, of poor quality, or conflicting and the balance of benefits, harms, and costs cannot be determined.</td>
</tr>
<tr>
<td>Insufficient - Not Recommended (Consensus-based)</td>
<td>I</td>
<td>The evidence is insufficient for an evidence-based recommendation. The intervention is not recommended for appropriate patients because of high costs/high potential for harm to the patient.</td>
</tr>
<tr>
<td>Not Recommended</td>
<td>C</td>
<td>Recommendation against routinely providing the intervention. The EBPP found at least intermediate evidence that harms and costs exceed benefits based on limited evidence.</td>
</tr>
<tr>
<td>Moderately Not Recommended</td>
<td>B</td>
<td>Recommendation against routinely providing the intervention to eligible patients. The EBPP found at least intermediate evidence that the intervention is ineffective, or that harms or costs outweigh benefits.</td>
</tr>
<tr>
<td>Strongly Not Recommended</td>
<td>A</td>
<td>Strong recommendation against providing the intervention to eligible patients. The EBPP found high quality evidence that the intervention is ineffective, or that harms or costs outweigh benefits.</td>
</tr>
</tbody>
</table>

Clinical Algorithm(s)

The following clinical algorithms are provided in the original guideline document:
- American College of Occupational and Environmental Medicine (ACOEM) Guidelines for care of acute and subacute occupational elbow disorders
- Initial evaluation of occupational elbow disorders
- Initial and follow-up management of occupational elbow disorders
- Evaluation of slow-to-recover patients with occupational elbow disorders (symptoms >4 weeks)
- Surgical considerations for patients with anatomic and physiologic evidence of nerve compression coupled with persistent elbow disorders
- Further management of occupational elbow disorders

Evidence Supporting the Recommendations

References Supporting the Recommendations


Kroll MP, Wiseman RL, Guttadauria M. A clinical evaluation of piroxicam gel: an open comparative trial with diclofenac


Saartok T, Eriksson E. Randomized trial of oral naproxen or local injection of betamethasone in lateral epicondylitis of


Type of Evidence Supporting the Recommendations

The type of supporting evidence is identified and graded for each recommendation (see "Major Recommendations").
Benefits/Harms of Implementing the Guideline Recommendations

Potential Benefits
- Improved efficiency of the diagnostic process
- Effective treatment resulting in symptom alleviation and cure
- Reduced over utilization of unproductive and harmful procedures
- Timely return of the employee to work, usually within 90 days of injury or illness

Potential Harms
- Risks and complications of surgical procedures and imaging studies (e.g., infection, radiation)
- Adverse effects of medications:
  - Glucocorticoid injections have some risks. For example, with a large volume in a small space there is a risk of tendon fraying and even rupture, although the underlying pathogenesis is thought to frequently entail those processes. Injections can also cause an inflammatory reaction causing pain lasting for several hours, and rarely infection.

Contraindications

Contraindications
Patients with positive findings of non-localized pain, non-localized tenderness, and psychological or psychiatric issues, have relative, but not absolute, contraindications to invasive testing or procedures.

Qualifying Statements

Qualifying Statements
The American College of Occupational and Environmental Medicine (ACOEM) provides this segment of guidelines for practitioners and notes that decisions to adopt particular courses of actions must be made by trained practitioners on the basis of the available resources and the particular circumstances presented by the individual patient. Accordingly, the ACOEM disclaims responsibility for any injury or damage resulting from actions taken by practitioners after considering these guidelines.

Implementation of the Guideline

Description of Implementation Strategy
An implementation strategy was not provided.

Implementation Tools
Clinical Algorithm
For information about availability, see the Availability of Companion Documents and Patient Resources fields below.

Institute of Medicine (IOM) National Healthcare Quality Report Categories

IOM Care Need
Getting Better

IOM Domain
Effectiveness
Patient-centeredness

Identifying Information and Availability

Bibliographic Source(s)

Adaptation
Not applicable: The guideline was not adapted from another source.

Date Released
1997 (revised 2007)

Guideline Developer(s)
American College of Occupational and Environmental Medicine - Medical Specialty Society

Source(s) of Funding
### Guideline Committee

American College of Occupational and Environmental Medicine Practice Guidelines Committee

### Composition of Group That Authored the Guideline

**Editor-in-Chief:** Kurt T. Hegmann, MD, MPH, FACOEM, FACP  
**Elbow Panel Chair:** Harold E. Hoffman, MD, FACOEM, FRCPC  
**Elbow Panel Members:** Roger M. Belcourt, MD, MPH, FACOEM; Kevin Byrne, MD, MPH, FACOEM; Jed Downs, MD, MPH; Lee S. Glass, MD, JD; J. Mark Melhorn, MD, FAAOS, FAADPE; Jack Richman, MD, CCBOM, FACOEM, FAADPE, CIME; Phillip Zinni III, DO, FAOASM, CMRO  
**Managing Editors:** Technical: Bruce Sherman, MD, FCCP; Production: Marianne Dregre, MA; Research: Julie A. Ording, MPH; Editorial Assistant: Debra M. Paddack

### Financial Disclosures/Conflicts of Interest

**Roger Belcourt, MD, MPH (Panel Member)**  
Director of Managed Care Services, Specialty Health, Inc.; and Assistant Clinical Professor of Medicine, University of Nevada at Reno  
**National, Regional, Local Committee Affiliations**—President, Nevada Health Professional Assistance Foundation; Diversion Committee and Foundation Board Member; Nevada Institutional Review Board; Board of Directors, Western Occupational and Environmental Medical Association (WOEMA); and Chair, 2006 Western Occupational Health Conference  
**Guidelines Related Professional Activities**—None  
**Research Grants/Other Support**—None  
**Financial/Non-Financial Conflict of Interest**—None

**Kevin Byrne, MD, MPH (Panel Member)**  
Associate Area Medical Director, USPS  
**National, Regional, Local Committee Affiliations**—Ergonomics Committee, ACOEM; Examiner, Corporate Health Achievement Award, ACOEM  
**Guidelines Related Professional Activities**—None  
**Research Grants/Other Support**—None  
**Financial/Non-Financial Conflict of Interest**—None

**Jed Downs, MD, MPH (Panel Member)**  
President, Occupational & Manual Medicine of Duluth, Ltd.  
**National, Regional, Local Committee Affiliations**—None  
**Guidelines Related Professional Activities**—None  
**Research Grants/Other Support**—None  
**Financial/Non-Financial Conflict of Interest**—None

**Lee Glass, MD, JD (Panel Member)**  
Associate Medical Director, State of Washington’s Department of Labor and Industries  
**National, Regional, Local Committee Affiliations**—Chair, Coding and Classification Committee, ACOEM; Member, Council on O.E.M. Practice, ACOEM; ACOEM Representative to AMA’s Relative Value System Update Committee; Committee on Homeland Security, State of Washington Department of Emergency Management; Disaster Preparedness Task Force, Washington State Medical Association; and Bioterrorism Preparedness and Response Program Advisory Committee, Washington State’s Department of Health  
**Guidelines Related Professional Activities**—Member, APS/ACP Low Back Pain Guideline Project; Immediate Past Chair, Guidelines Committee, ACOEM; Editor, ACOEM’s *Occupational Medicine Practice Guidelines, 2nd Edition*; and Past Associate Editor, *APG Insights*  
**Research Grants/Other Support**—None  
**Financial/Non-Financial Conflict of Interest**—None

**Kurt Hegmann, MD, MPH (Editor-in-Chief)**  
Associate Professor and Center Director, Rocky Mountain Center for Occupational and Environmental Health, University of Utah  
**National, Regional, Local Committee Affiliations**—Member, Ergonomics Committee (Chair 2001–2005), ACOEM; American Board of Preventive Medicine (Trustee; Chair, Core Examination Committee; Chair, Examination Committee); and Chair, Federal Motor Carrier Safety Administration’s Medical Review Board

<table>
<thead>
<tr>
<th>Type of Evidence Supporting the Recommendations</th>
<th>Description of Methods Used to Analyze the Evidence</th>
<th>Description of the Methods Used to Analyze the Evidence</th>
<th>Insights</th>
<th>Financial/Non-Financial Conflict of Interest</th>
<th>National, Regional, Local Committee Affiliations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Recommended</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recommended</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not Recommended</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Notes

1. For persistent elbow disorders, surgery after at least 6 months of conservative treatment and the stronger should be the evidence of efficacy.
2. Cortisone with bupivacaine (Solveborn et al., 1995)  
3. Confirmatory electromyography (EMG) may be considered for nonresponders.  
4. Prescriptions for persistent pain may include nonsteroidal antiinflammatory agents (NSAIDs), corticosteroids, and prescription analgesics along with an adjustable, properly fitted brace for persistent pain.
6. Maximum-strength corticosteroids injected into the epitrochlearis septum are recommended for persistent elbow pain.
7. Anterior humeral line (AH) injection: approximately 6 cm anterior to the humeral head (Hamer-Goodman et al., 1995)  
8. Intra-articular injection of steroid (Hamer-Goodman et al., 1995)  
9. Topical EMG biofeedback may be considered for nonresponders.  
10. Anterior humeral line (AH) injection: approximately 6 cm anterior to the humeral head (Hamer-Goodman et al., 1995)  
11. Cortisone with bupivacaine (Solveborn et al., 1995)  
12. Cortisone with bupivacaine (Solveborn et al., 1995)

#### Bibliographic Source(s)

American College of Occupational and Environmental Medicine (ACOEM); 2007. 67 p. [122 references]

#### Accessibility

Readers with questions regarding guideline content are directed to contact the guideline developer.
Relieving discomfort can be accomplished most safely by temporarily decreasing or modifying the offending—

Rollenson L, Haker E. Iontophoresis with cortisone in the treatment of lateral epicondylalgia (tennis elbow)

Ritchie LD. A clinical evaluation of flurbiprofen LAT and piroxicam gel: a multicentre study in general practice. Clin

for acute epicondylitis: a randomized, double-blinded, placebo

Lundeberg T, Abrahamsson P, Haker E. A comparative study of continuous ultrasound, placebo ultrasound and rest in

confirmatory electro

Avoid prolonged hyperflexion of elbow (Schmitz et al., 2016;}

diclofenac (Nirschl et al., 2003; Runeson & Haker, 2002;}

Systemic antibiotics and aspiration/drainage for infected
tendonitis (Cox, 1983) (because of the high infection rate)

Jokl, 1986; Labelle & Guibert, 1997) (because of the high infection rate)


diagnosis with positive diagnostic tests is considered to be pathognomonic of ulnar nerve compression at the
dislocation of the

of ulnar nerve compression at the

Entrapment

Nabhan

Plain film radiography for red

Magnetic resonance imaging (MRI) for suspected ulnar

Stretching (Klaiman et al., 1998; Stratford et al., 1989) (because of the high infection rate)

Occupational and non-

Dislocation of the

Non-Oslerian Abnormalities

Orthotics and

Phonophoresis (Baskurt, Ozcan, & Algun, 2003;}

Haker & Lundeberg, “Is low

laser

A

Guideline Title
Elbow disorders.

Bibliographic Source(s)
American College of Occupational and Environmental Medicine Practice Guidelines Committee American College of Occupational and Environmental Medicine

J. Mark Melhorn, MD (Panel Member)
Orthopaedic Practice, The Hand Center, PA; and Clinical Assistant Professor, Section of Orthopaedics, Department of Surgery, University of Kansas School of Medicine at Wichita

National, Regional, Local Committee Affiliations—Board of Directors, American Academy of Disability Evaluating Physicians (AADEP); CME Course Co-chair, Annual Meeting, AADEP; CME Advance Skills Course Co-chair, AADEP; Ethics and Discipline Committee, AADEP; Return to Work/Stay at Work Process Improvement Committee, ACOEM; Program Director, Occupational Orthopaedics and Workers’ Compensation: A Multidisciplinary Perspective, American Academy of Orthopaedic Surgeons (AAOS); Occupational Health Committee, AAOS

Guidelines Related Professional Activities—Member, Guidelines Committee, ACOEM (2nd Edition); Associate Editor, APG Insights, ACOEM; Lead Author, Section on Musculoskeletal Upper Extremity, AMA Guides, 6th Ed.; Medical Advisory Board, Medical Disability Advisor; and Medical Advisory Board, Official Disabilities Guidelines, Work Loss Data Institute

Research Grants/Other Support—None

Financial/Non-Financial Conflict of Interest—None

Jack Richman, MD (Panel Member)
Executive Vice President and Medical Director, AssessMed Inc.; and President, AssessMed Quality Review

National, Regional, Local Committee Affiliations—Chair, Research Committee of the Canadian Institute for the Relief of Pain and Disability (CIRPD)

Guidelines Related Professional Activities—Member, Guidelines Committee, ACOEM (2nd Edition); Ontario Government Occupational Disease Panel for the Workplace Safety and Insurance Board; and Chair, Standards Committee, Canadian Society of Medical Evaluators

Research Grants/Other Support—None

Financial/Non-Financial Conflict of Interest—None

Bruce Sherman, MD (Managing Editor-Technical)
Medical Director, Global Services, The Goodyear Tire & Rubber Co.; Director, Health and Productivity Initiatives, Employers Health Coalition of Ohio; Consultant, Comprehensive Health Services; and Assistant Clinical Professor, Division of Pulmonary and Critical Care Medicine, Case Western Reserve University School of Medicine

National, Regional, Local Committee Affiliations—Examiner, Corporate Health Achievement Award, ACOEM; Member, Health and Productivity Section, ACOEM; and Faculty, “Health and Productivity Course,” ACOEM

Guidelines Related Professional Activities—Assistant Section Chair, Medical Disability Advisor, 5th Ed.; and Editor, Utilization Management Knowledgebase, ACOEM

Research Grants/Other Support—None

Financial/Non-Financial Conflict of Interest—None

Phillip Zinni, DO (Panel Member)
Regional Medical Director, Whole Health Management, Medical and Wellness Clinic, Harrah’s Entertainment

National, Regional, Local Committee Affiliations—Secretary/Treasurer, American Osteopathic Academy of Sports Medicine; and Member, Health and Productivity Section, ACOEM

Guidelines Related Professional Activities—Medical Director, The Industrial Athlete Institute for Research and Education, Inc.

Research Grants/Other Support—None

Financial/Non-Financial Conflict of Interest—None

Guideline Status
This is the current release of the guideline.
This guideline updates a previous version: Elbow complaints. Elk Grove Village (IL): American College of Occupational and Environmental Medicine (ACOEM); 2004. 25 p.
The Guidelines are currently being updated on a 3-year rolling process.

Guideline Availability
Print copies are available from ACOEM, 25 Northwest Point Boulevard, Suite 700, Elk Grove Village, IL 60007; Phone: 847-818-1800 x399. To order a subscription to the online version, call 800-441-9674 or visit http://www.acoempracguides.org/.

Availability of Companion Documents
None available

Patient Resources
None available

NGC Status
This NGC summary was completed by ECRI on May 31, 2006. The information was verified by the guideline developer on November 3, 2006. This NGC summary was updated by ECRI Institute on July 23, 2007. The updated information was verified by the guideline developer on August 15, 2007. This summary was updated by ECRI Institute on January 15, 2010 following the U.S. Food and Drug Administration (FDA) advisory on Voltaren Gel.

Copyright Statement
The American College of Occupational and Environmental Medicine, the signator of this license, represent and warrant that they are the publisher of the guidelines and/or possess all rights necessary to grant the license rights to AHRQ and its agents.

Disclaimer

NGC Disclaimer
The National Guideline Clearinghouse™ (NGC) does not develop, produce, approve, or endorse the guidelines represented on this site.

All guidelines summarized by NGC and hosted on our site are produced under the auspices of medical specialty societies, relevant professional associations, public or private organizations, other government agencies, health care organizations or plans, and similar entities.

Guidelines represented on the NGC Web site are submitted by guideline developers, and are screened solely to determine that they meet the NGC Inclusion Criteria which may be found at http://www.guideline.gov/about/inclusion-criteria.aspx.

NGC, AHRQ, and its contractor ECRI Institute make no warranties concerning the content or clinical efficacy or effectiveness of the clinical practice guidelines and related materials represented on this site. Moreover, the views and opinions of developers or authors of guidelines represented on this site do not necessarily state or reflect those of NGC, AHRQ, or its contractor ECRI Institute, and inclusion or hosting of guidelines in NGC may not be used for advertising or commercial endorsement purposes.

Readers with questions regarding guideline content are directed to contact the guideline developer.