(partial or full thickness), or calcific tendonitis. A subacromial or subdeltoid bursitis may be associated with any of these disorders, or may occur in isolation.

When selecting treatment options for shoulder pain, a diagnosis of the specific pathology is rarely necessary. The most useful aspect of diagnosis is to define the source of pain as originating from the cervical spine, glenohumeral joint, rotator cuff, or acromioclavicular joint. A simple algorithm incorporating identification of red flag symptoms and signs, questions in the history, and simple shoulder tests can be followed to locate the source of the shoulder pain.

Incidence and Prevalence

Each year in primary care in the United Kingdom, about 1 percent of adults older than 45 years present with a new episode of shoulder pain. Prevalence is uncertain, with estimates from 4 to 26 percent. One community survey (392 persons) in the United Kingdom found a one-month prevalence of shoulder pain of 34 percent. A second survey (644 persons 70 years and older), in a community-based rheumatology clinic in the United Kingdom, reported a point prevalence of 21 percent, with a higher frequency in women than men (25 percent in women versus 17 percent in men). Seventy percent of cases involved the rotator cuff. Further analysis of 134 persons included in the survey found that 65 percent of cases were rotator cuff lesions, 11 percent were caused by localized tenderness in the pericapsular musculature, 10 percent involved acromioclavicular joint pain, 3 percent involved glenohumeral joint arthritis, and 5 percent were referred pain from the neck. Another survey in Sweden found that in adults, the annual incidence of frozen shoulder was about 2 percent, and those 40 to 70 years of age were most commonly affected.

Etiology and Risk Factors

Rotator cuff disorders are associated with excessive overloading, instability of the glenohumeral and acromioclavicular joints, muscle imbalance, adverse anatomical features (narrow coracoacromial arch and a hooked acromion), rotator cuff degeneration with aging, ischemia, and musculoskeletal diseases that result in wasting of the cuff muscles.

Risk factors for frozen shoulder include female sex, older age, shoulder trauma, surgery, diabetes, cardiorespiratory disorders, cerebrovascular events, thyroid disease, and hemiplegia. Arthritis of the glenohumeral joint can occur in numerous forms, including primary and secondary osteoarthritis, rheumatoid arthritis, and crystal arthritides.

Shoulder pain can also be referred from other sites, in particular the cervical spine. It can also arise after stroke. Poststroke shoulder pain and referred pain are not addressed in this review.

Clinical Questions

What are the effects of oral drug treatment in persons with shoulder pain?	
Likely to be beneficial	NSAIDs (oral; reduce pain in persons with acute tendonitis, subacromial bursitis, or both)
Unknown effectiveness	Corticosteroids (oral)
	Opioid analgesics
	Paracetamol
What are the effects of topical drug treatment in persons with shoulder pain?	
Unknown effectiveness	NSAIDs (topical)
What are the effects of local injections in persons with shoulder pain?	
Likely to be beneficial	Nerve block
Unknown effectiveness	Autologous whole blood injections
	Intraarticular corticosteroid injections
	Intraarticular NSAID injections
	Platelet-rich plasma injections
	Subacromial corticosteroid injections
What are the effects of nondrug treatment in persons with shoulder pain?	
Likely to be beneficial	Extracorporeal shock wave therapy
	Laser treatment
	Physiotherapy (manual treatment, exercises)
Unknown effectiveness	Acupuncture
	Electrical stimulation
	Ice
	Ultrasound
What are the effects of surgical treatment in persons with shoulder pain?	
Likely to be beneficial	Arthroscopic subacromial decompression
Unknown effectiveness	Excision of distal clavicle
	Manipulation under anesthesia
	Rotator cuff repair
	Shoulder arthroplasty

NSAID = nonsteroidal anti-inflammatory drug.

Prognosis

One survey in a community of older persons found that most persons with shoulder pain were still affected three years after the initial survey. One prospective cohort study of 122 adults in primary care found that 25 percent of persons with shoulder pain reported previous episodes and 49 percent reported full recovery at 18 months' follow-up.

EDITOR'S NOTE: Paracetamol is called acetaminophen in the United States.

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