

### Joint Event

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### Cervical spine fusion and shoulder pain: A new algorithm

Lorena Pena Larrea

Hospital Universitario Central de Asturias, Spain

The complex problem of combined neck and shoulder pain is not rarely seen in our patients as the main complaint. Some of them need a shoulder procedure (subacromial decompressions or rotator cuff repairs) and an anterior cervical spine fusion. This select group of complex patients illustrates the diagnostic studies required to determine whether the pain comes primarily from the cervical spine, shoulder, or both. Our goal is a good pain relief in these patients.

On the one hand, some patients suffer nearly equal neck and shoulder pain as the chief complaint. On the other hand, the initial complaint in some others is predominantly neck pain with only minor shoulder involvement. Sometimes, the shoulder pain becomes more significant after the anterior cervical fusion. This new algorithm emphasizes the need for a careful evaluation of patients with combined neck-shoulder pain syndrome in a systematic approach allowing appropriate treatment.

Many patients who have neck-shoulder pain syndrome offer a diagnostic and therapeutic challenge, particularly when there is dual pathology. It is potentially a frustrating situation for both patient and surgeon when the pain is present at more than one site. Frequently, the primary pathology in such a case is either in the cervical spine or in the shoulder, so the patient responds to appropriate measures directed at the site responsible for the pain. It is well known that the cervical spine can be responsible for referred pain to the shoulder and even down the arms. This often occurs in a radicular pattern and can be exacerbated by certain neck motions. Such radiating pain may eventuate in secondary shoulder pathology such as tendinitis or adhesive

capsulitis, often leaving the patient with symptoms emanating from both sites. Occasionally there are separate cervical and shoulder pathologies that may arise either simultaneously or sequentially, accounting for pain from both the cervical spine and shoulder. As a rule, shoulder pathology does not refer pain into the neck but may cause pain along the scapula and trapezius muscles.

If the surgeon hopes to help these patients, a careful evaluation must be performed to find the source of the primary pathology. Physical examination suggests that the cervical spine should be investigated if patients have localized posterior cervical spine tenderness and a painful diminished range of motion of the neck. Similarly, physical examination findings of localized tenderness, impigement-aggravated signs, diminished motions, and/or weakness in the shoulder suggests the shoulder as the primary source of pathology. Occasionally, dual findings are present, presenting a confusing picture.

The purpose of this speech is to suggest a guideline for investigation and treatment of these patients, something like a protocol to work with and follow. A careful evaluation is critical to identify the primary pathology and to direct treatment to that particular site.

#### **Speaker Biography**

Lorena Pena Larrea has completed her PhD from University of Navarra; Spain and she is doing Post-doctoral studies from the University of Oviedo. She has presented more than 20 posters and oral communications in national and international congresses.

e: lpena@alumni.unav.es

