Complex regional pain syndrome, including its treatment, is covered in greater detail in **Chap. 440**.

■ TIETZE SYNDROME AND COSTOCHONDRITIS

Tietze syndrome is manifested by painful swelling of one or more costochondral articulations. The age of onset is usually before 40, and both sexes are affected equally. In most patients, only one joint is involved, usually the second or third costochondral joint. The onset of anterior chest pain may be sudden or gradual. The pain may radiate to the arms or shoulders and is aggravated by sneezing, coughing, deep inspirations, or twisting motions of the chest. The term *costochondritis* is often used interchangeably with *Tietze syndrome*, but some restrict the former term to pain of the costochondral articulations without swelling. Costochondritis is observed in patients aged >40 years; it tends to affect the third, fourth, and fifth costochondral joints, and occurs more often in women. Both syndromes may superficially mimic cardiac or upper abdominal causes of pain. Rheumatoid arthritis, ankylosing spondylitis, and reactive arthritis may involve costochondral joints but are distinguished easily by their other clinical features. Other skeletal causes of anterior chest wall pain are xiphoidalgia and the slipping rib syndrome, which usually involves the tenth rib and causes reproducible pain below the rib cage. Malignancies such as breast cancer, prostate cancer, plasma cell cytoma, and sarcoma can invade the ribs, thoracic spine, or chest wall and produce symptoms suggesting Tietze's syndrome. Patients with osteomalacia may have significant rib pain, with or without documented microfractures. These conditions should be distinguishable by radiography, bone scanning, vitamin D measurement, or biopsy. Analgesics, NSAIDs, and local glucocorticoid injections usually relieve symptoms of costochondritis/Tietze's syndrome. Care should be taken to avoid overdiagnosing these syndromes in patients with acute chest pain syndromes.

■ MYOFASCIAL PAIN SYNDROME