Inflammatory Arthropathy: Clinical Assessment. Steven R. Goldring, MD, Chief Scientific Officer, Hospital for Special Surgery, New York, NY 10021.

The inflammatory arthropathies encompass a broad range of clinical disorders that share in common the involvement of the articular and peri-articular tissues. These conditions may involve multiple extra-articular organs and tissues and are frequently associated with constitutional symptoms such as fatigue, weight loss and malaise that indicate the presence of a generalized systemic inflammatory process. The classification of these conditions is based on multiple factors, including the distribution of the joint pathology, e.g. diarthrodial joints and/or amphiarthroses; the underlying pathophysiological processes involved in the initiation and perpetuation of the inflammation; the pattern and functional effects of extra-articular organ involvement (assessed with appropriate laboratory tests); and more recently the underlying genetic associations. The initial step in clinical assessment involves a detailed and comprehensive clinical history. The history should be structured to define the pattern of joint distribution, the temporal sequence and chronicity of the joint involvement, the extent and pattern of joint damage and functional impairment, evidence of systemic and extra-articular features and their impact on functional status, and the presence of a family history of a similar or related condition.

The next step in clinical evaluation is the performance of a thorough physical examination that includes not only a systematic examination of the articular structures, but a comprehensive evaluation of extra-articular organs and tissues that may be affected by the underlying inflammatory condition. The information gathered through the patient interview and acquisition of the clinical history and exam can then be supplemented by the use of laboratory and imaging tests that can be utilized to establish the diagnosis, yield insights into the underlying pathogenic processes, evaluate the structural and functional state of the articular structures and extra-articular organs and provide the information that is critical to decision making with respect to treatment and prognosis.

Essential to the provision of optimal patient care is the availability of comprehensive and informative qualitative and quantitative assessment tools that can be utilized to monitor disease progression, assess response to therapies and to perform clinical research that can advance the understanding of disease pathogenesis and evaluate the impact of therapeutic interventions. The assessment tools can be segregated into several different categories that include laboratory and genetic testing, imaging modalities, and health assessment questionnaires. Health assessment questionnaires (HSQs) play a valuable role in providing descriptive, diagnostic, predictive and evaluative information that can be utilized to communicate the health status of an individual, and to perform clinical decision-making and research. They can be subdivided into observer-dependent HSQs that are interviewer scored, examination-based physical findings and physical performance tests and observer-independent measurements that utilize patient self-administered questionnaires. In general, HSQs are used to assess disease activity, joint damage, discomfort (pain), physical function and patient and physician global evaluation.

Major national and international agencies and organizations have develop core sets and responder criteria for principal forms of inflammatory arthritis, including for example rheumatoid arthritis, ankylosing spondylitis and psoriatic arthritis. The development of new laboratory and imaging technologies and advances in the understanding of the molecular, genetic and cellular mechanisms involved in the initiation and perpetuation of the rheumatic disorders that are characterized by inflammatory arthritis have led to the
development of new and more comprehensive and reliable tools for diagnosing the specific forms of inflammatory arthritis, monitoring the clinical course and assessing the impact of therapeutic interventions. These assessment tools can be classified under the general heading of **biomarkers** and they include evaluative instruments that assess anatomic, physiologic, biochemical or molecular parameters. Imaging modalities and technologies can be included in this category and these techniques have been effectively utilized to improve diagnostic sensitivity and specificity, provide objective and quantitative assessment of inflammatory and structural changes and importantly to yield insights into the pathogenic mechanisms associated with inflammatory arthritis.