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Inflammation evolved to aid in the clearance of microorganisms. In pediatric arthritides, the inflammation persists and causes damage to the joint. The contribution of the innate immune system to inflammation is significant and can be exploited therapeutically. Although cells of the adaptive immune system such as T cells and B cells participate in the disease process, many of the features of arthritis are directly attributable to inflammatory mediators. Recent advances in the understanding of these processes have led to dramatic improvements in treatment.

Measurement of Health Status, Functional Status, and Quality of Life in Children with Juvenile Idiopathic Arthritis: Clinical Science for the Pediatrician	389
Ciarán M. Duffy	

Several groups have undertaken research on health status, functional status, and quality of life in the pediatric rheumatic diseases, particularly juvenile idiopathic arthritis (JIA) and juvenile rheumatoid arthritis. This article highlights the principles involved in this type of measurement, discusses the measures that have been developed for JIA, and describes the outcomes determined from recent retrospective and prospective longitudinal outcome studies. These studies suggest that although there has been improvement in overall outcomes, significant numbers of individuals persist with active disease into adulthood and have significant damage, reduced functional ability, and disability.

Radiologic Investigation of Rheumatic Diseases

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Paul Babyn and Andrea S. Doria

This article reviews the current use of the wide variety of imaging modalities now available, presenting the imaging features of common and important causes of acute and chronic rheumatic disorders including juvenile idiopathic arthritis, spondyloarthropathies/enthesitis-related arthritis, sepsis, autoimmune diseases, vasculitis, and osteoporosis.

Juvenile Idiopathic Arthritis

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Jennifer E. Weiss and Norman T. Ilowite

Juvenile idiopathic arthritis (JIA), a term referring to a group of disorders characterized by chronic arthritis, is the most common chronic rheumatic illness in children and is a significant cause of short- and long-term disability. This article discusses the classification, differential diagnosis, and treatment of JIA.

Systemic Lupus Erythematosus

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Susanne M. Benseler and Earl D. Silverman

Systemic lupus erythematosus (SLE) in children and adolescents is a multisystem autoimmune disease with a great variability in disease presentation and course. The diagnosis of SLE is based on the clinical and laboratory features consistent with this illness in the absence of other autoimmune disease that could explain the findings. At the time of diagnosis of SLE, most, but not all, patients have at least four of the American College of Rheumatology classification criteria for SLE. This article summarizes available epidemiologic data, clinical patterns, approaches to investigation and treatment, and recent outcome data.

Antiphospholipid Syndrome

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Angelo Ravelli and Alberto Martini

Antiphospholipid syndrome (APS) is a systemic autoimmune disorder characterized by a combination of arterial or venous thrombosis and recurrent fetal loss, accompanied by elevated titers of antiphospholipid antibodies (aPL). APS has been recognized as the leading cause of vascular thrombosis in children. The diagnostic and therapeutic approach to APS in childhood may be different from that for adults and because of the rarity of aPL-related thrombosis in children, the natural history and optimal management of APS can be defined only through large, multicenter, controlled studies.

Inflammatory Myopathies in Children 525
Sandrine Compeyrot-Lacassagne and Brian M. Feldman

Juvenile idiopathic inflammatory myopathies are rare conditions that are probably autoimmune in nature. Juvenile dermatomyositis (JDM) is the most common inflammatory myopathy. This article describes a recent patient who presented with typical JDM and uses her case to discuss aspects of the childhood inflammatory myopathies.

Vasculitis in Children 555
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This article provides a general overview of vasculitis, situations in which the diagnosis should be considered, diagnostic methods, and therapeutic considerations. Details and treatments unique to specific vasculitides are also reviewed.

Auto-inflammatory Fever Syndromes 585
Shai Padeh and Yakov Berkun

The term autoinflammatory disease has been proposed to describe a group of disorders characterized by attacks of seemingly unprovoked inflammation without significant levels of either autoantibodies or autoreactive T cells. The last decade has witnessed tremendous advances in the understanding of these disorders. These advances have allowed therapeutic interventions, resulting in improvement in the short-term and long-term morbidity of all of these diseases. Future research into the molecular mechanisms underlying these inflammatory diseases should lead to a better understanding of inflammatory diseases in general and, it is hoped, to better and more targeted therapies.

Assessment and Management of Pain Syndromes and Arthritis Pain in Children and Adolescents 625
Kelly K. Anthony and Laura E. Schanberg

Pediatric rheumatologists increasingly are faced with the challenge of assessing, diagnosing, and managing pain in children and adolescents. Recent research suggests that musculoskeletal pain may be the most common complaint for which children are referred to pediatric rheumatologists. Understanding the nature of chronic musculoskeletal pain in children is advantageous for general pediatric practitioners and subspecialists. This article introduces issues related to pain in children who have musculoskeletal pain syndromes and juvenile idiopathic arthritis.

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