Welcome to the UCSF Pediatric Rheumatology Elective!

The patients cared for by our division are diverse and offer an opportunity to learn about many different aspects of autoimmune disorders. The attached schedule outlines the clinics and teaching sessions related to our service. This is primarily an outpatient rotation, but inpatient learning opportunities are also available depending on the daily schedule.

Expectations for the rotation:

- Meet with the on-service rheumatology attending during the first three days of your elective to discuss your personal goals for the elective.
- Attend pediatric rheumatology clinics per schedule.
- Attend rheumatology educational conferences and chart rounds.
- When clinics and other educational activities are not going on, participate in inpatient care with the on-call rheumatology fellow.
- Complete documentation in APEX for each patient you see in clinic. Please use the attached instructions as a guide.
- Deliver an approximately 30 minute Power Point presentation at the end of your rotation (4 week rotators only). You may discuss any topic related to our disciplines that interests you. Please discuss the topic and timing of your presentation with the on-service attending in advance.

We hope that you find this rotation educational and fun!

Sincerely,

The Division of Pediatric Rheumatology

Emily von Scheven, Division Chief
Erica Lawson, Fellowship Program Director
Mike Waterfield
Will Bernal
Susan Kim
Nikki Ling
Alice Chan
Jessica Neely, fellow
Sara Haro, fellow
Julia Shalen, fellow

July 2018

PEDIATRIC RHEUMATOLOGY ROTATION OBJECTIVES

The purpose of this rotation is to familiarize residents and medical students with pediatric rheumatology. Our goal is for you to learn:

- When to suspect a rheumatic condition in a child.
- How to take a history with attention to elements that raise suspicion for a rheumatic disease (i.e. morning stiffness in joints, photosensitivity, family history of autoimmunity, etc.)
- How to perform a detailed physical exam and recognize the typical findings of rheumatic conditions (i.e. arthritis, malar rash, etc.)
- When to order and how to interpret basic laboratory and imaging studies (i.e. ANA, CBC with differential, inflammatory markers, etc.) if a rheumatic disease is suspected.
- Basic principles of management for the most common rheumatic conditions.

Pediatric Rheumatology Elective Schedule

Key Info:

Rheum Clinic (for families): 415-353-7337
Rheum Office: Mission Hall, 5th Floor

Monday	Tuesday	Wednesday	Thursday	Friday
8-9 am Peds Residents Morning Report Oberndorf Auditorium A-1617	**8-9 am** Peds Residents Morning Report Oberndorf Auditorium A-1617	**8-9 am** Peds Residents Morning Report Oberndorf Auditorium A-1617	**8-9 am** Peds Residents Morning Report Oberndorf Auditorium A-1617	**8-9 am** Peds Residents Morning Report Oberndorf Auditorium A-1617
8:15-12pm Rheum/Arthritis clinic (Bernal) Gateway Medical Building, 6th floor, Pod B	**8:15-12pm** Rheum clinic (Bernal, Ling) Gateway Medical Building, 6th floor, Pod B	**8:15-12pm** Rheum clinic (Waterfield) Gateway Medical Building, 6th floor, Pod B	**8:15-12pm** Rheum Clinic (von Scheven, Kim) Gateway Medical Building, 6th floor, Pod B	**8:15-12pm** Rheum/Lupus clinic (von Scheven, Lawson, Kim) Gateway Medical Building, 6th floor, Pod B
12-1pm Noon Conference BCH 5901	**12-1pm** Noon Conference BCH 5901	**12-1pm** Noon Conference BCH 5901	**12-1pm** Pediatric Grand Rounds Oberndorf Auditorium A-1602	**12-1pm** Noon Conference BCH 5901
	1-5 pm Rheum clinic (Bernal, Ling) Gateway Medical Building, 6th floor, Pod B	**2-3pm** Rheum Educational Conference MH 5500 (or per weekly email) **3-4 pm** Multi-disciplinary Team Rounds MH 5500 (or per weekly email)	**1-5 pm** Rheum clinic (Lawson, Kim)	

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Jenna Parisi, Clinical Social Worker	510-428-3800 ext 1269 (voicemail only)	650-280-3851	Jparisi@mail.cho.org	510-718-1284	CHO
Staff	**Office Phone**	**Cell Phone**	**Email**	**Pager**	**Room**
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Michael Pham, Operations & Finance Analyst	502.2085		Michael.Pham@ucsf.edu		MH: #4442
Beth Chapman, Faculty Support	476.2459		Lilibeth.Chapman@ucsf.edu		MH: #4533

CLINIC PHONES		FAXES		MISC	
Front Desk - Carla	514.2794	Treatment Center	353.2600	Treatment Center	353.2584
	476.1275	Mission Hall	476.5363		353.2929
Team Work Room -M6307	502.7981	Investigational Pharmacy	353.8543	Access Center	353.1611
	502.7986	Linda Hunt	502.2406	ACCESS #: 877-UC CHILD	877-822-4453
Nurse Station B– in back	514.2149	Peds Clinic & Badam	353.2861	Interpreter	353.2690
Ped Renal Work Room -M6250	502.7805	I.T. Support		*Within the University you may dial last 5 digits of phone number*	
	502.7963	http://help.ucsf.edu - ITServiceDesk@ucsf.edu			
Adult Rheum	353.2497	514.4100			

CHO	
General Clinic	510-428-3502
New patient referral fax	510-995-2956
Dr. Lionetti direct fax	510-601-3957
Maria Aguilar, Admin.	510-428-3885 ext 4338
CHO operator	510-428-3000
Office fax	510-450-5872

DAVIS	PHONE	FAX	EMAIL
Referral Line	800-482-3284		
Werner, Marlene (Practice manager)	916-762-3084	916-734-1301	marlene.werner@ucdmc.ucdavis.edu
Boyd, Veronica Day, Dana (Nurses)	Back line: 916-734-1304 Patient line: 916-734-8737	916-734-8737	veronica.boyd@ucdmc.ucdavis.edu dana.day@ucdmc.ucdavis.edu
Pediatric Infusion Center	Back line: 916-703-2704 Pharmacist: 916-703-2605	916-734-1357	Pharmacist: merisso@ucdavis.edu

APEX for Rheum Clinic

Logging In:

1. User ID
2. Password
3. Dept: PED RHEUMATOLOGY MB

To look up schedule of providers:

1. Use schedule tab view
2. Select day you want to see clinic schedule on calendar
3. In the dept box, select PED RHEUMATOLOGY MB
4. Click on the folder
5. If you want to see specific provider, open the folder by clicking the plus sign and then select the provider

To review chart notes before they arrive:

1. Open the patient encounter by double-clicking on their visit.
2. Under chart review tab (vertical ones), select encounter tab (horizontal ones) and double click the visit you are interested in reviewing. If last note was not an Apex note, then select those visits with a paperclip next to them. When you double click on it, find the note information section and double click the "all notes" link to read the last note

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3. For new patients, you may find information sent by the referring provider under the scanned clin docs tab

To complete rheum clinic documentation:

1. Double click on the patient that has arrived (tab will open w/ stethoscope next to patient name)
2. Click "chief complaint" (if new patient, enter main symptoms. If f/u patient, then type follow up)
3. Review vital signs
4. Progress Note: use one of the following dot phrase templates (have fellow share them w/ you). Fill in all the *** and delete any phrases that are not applicable.
    - PRNEWCLINIC (new patient template)
    - PRARTHRITIS (follow up template for JIA, include in ID prominent joint involves if any or key labs)
    - PRDERMATO (follow up template for dermatomyositis, include in ID key muscle labs)
    - PRLUPUS (follow up template for lupus, include in ID how pt needs diagnostic criteria and organ involvement)
    - PRVASCULITIS (follow up template for vasculitis, include in ID type of vasculitis and organ involvement)
    - PRFUCLINIC (follow up template for all other patients)
5. Review allergies. Please make sure if pt is on immunosuppressive meds that live vaccines are listed as an contraindication
6. Review medications, confirming with patient the dose and frequency of each medication.
7. Enter/Review "history" on blue vertical tabs. Medical, surgical, family (medical history), social (social documentation)
8. Start/update problem list (Residents only):
    - Please list ALL issues addressed at today's visit in problem list. Include "steroid dependence" and "immunosuppressed status" if applicable.
    - Under overview for the main diagnosis (i.e. SLE, JIA, etc.), put the following info:
        - p/w what symptoms and when OR dx when and prominent sx OR how meet criteria
        - Labs: (list important labs)
        - Key imaging
        - last PPD (if applicable)
        - Rheum meds in past and current
9. For residents, there are a things you need to include in the progress note for coding/billing purposes:

    Please mention the **status of each diagnosis** in the assessment.
    - Self-limited or minor - 1 point
    - Established problem (to MD), stable or improved – 1 point
    - Established, worsening problem – 2 points
    - New problem with no additional w/u planned – 3 points
    - New problem with additional workup planned – 4 points

    For Data Complexity (again 4 point max), note when we:
    - Reviewed OR ordered **labs** – 1 point
    - Reviewed **imaging** report OR ordered imaging – 1 point
    - Tracked down **outside records** (i.e called for outside labs) – 1 point
    - **Look at actual radiology images** – 2 points
    - **Speak with another provider** (i.e. PMD, referring MD) - 2 points
10. Fill out "follow-up" tab
11. LOS tab, enter N5 for new patients and E5 for follow up patients, AND attending name
12. Close Encounter tab, enter attending name.

To write discharge instructions for patients:

1. Open patient instructions tab
2. Enter dot phrase (PRDCINSTRUCTIONS)
3. Fill in all the ***
4. To print, click "print AVS" (the circle dot on the computer screen tells you which printer)

To place orders: (for residents)

- Medicines:
  - E-prescribed. Enter the pharmacy they will get them at. Be sure to select "normal" in the class box.
  - Written. Only certain printers print on secured scripts. Select "print" under class box
  - Some medicines require authorizations.
- Labs:
  - Status: future or standing (if every # months)
  - Priority: routine
  - Class (where labs will be done): UCSF, Quest, LabCorp or Print/Other
  - Give families print outs to take to Quest, LabCorp or other lab. No paper orders needed if labs to be drawn at UCSF.
- Imaging:
  - If study to be done at UCSF, select "ancillary." X-rays can be done on an walk-in basis on the 5th floor of the Gateway Building. For other studies, please show families the number to call to schedule (will appear on the order printout).
  - If study to be done at a non-UCSF facility, select "external." Talk to the attending about scheduling and authorization logistics.
- Referrals:
  - If internal (referring to another UCSF clinic), enter order only
  - If external (referring to an outside clinic), give form to family to bring to PCP. Please call PCP to let them know about the referral.

List of dotphrases

For notes templates

- PRNEWCLINIC – new patient template
- PRFUCLINIC – generic f/u template
- PRARTHRITIS – JIA follow-up template
- PRDERMATO – JDM follow-up template
- PRLUPUS – lupus follow-up template
- PRVASCULITIS – vasculitis follow-up template

For D/C Instructions

- PRDCINSTRUCTIONS – peds rheum d/c instructions
- PRSPDCINSTRUCTIONS – peds rheum d/c instructions Spanish
- PREDINSTRTAPER – pred taper pt instructions

Helpful Info for Rheum Clinic

How clinic works?

- When a patient is ready to be seen, the dot next to their name will turn green in APEX.
- When you go in to see the patient, change dot to red.
- After seeing the patient, present to attending.

After visit, please do the following:

- Track down any outside labs and imaging by having them faxed to office – message Badam Bayarjargal in APEX for help with this.
- Complete your note within 48 hours of seeing the patient.

Short Primer on Follow-up Visits for Patients with Known Rheumatic Diseases:

Arthritis

- Find out what type of arthritis (oligoarticular, polyarticular RF pos, polyarticular RF neg, psoriatic, enthesitis-related, systemic)
- Need to know if have had uveitis or not. Last eye exam. Patients that are ANA positive, poly or oligo, and <7 years old at diagnosis are at higher risk for developing uveitis. Screening is needed every 3-12 months (per AAP guidelines)
- Note if patient in remission (minimal joint pian, no arthritis on exam and normal labs), and for how long they have been in remission
- Note most recent medication changes and timing of those changes (e.g. tapered MTX 3 months ago, switched Enbrel to Humira 6 months ago)
- Markers we follow for JIA: CBC, ESR/CRP, AST/ALT/BUN/Cr
- Markers for systemic JIA: CBC w/ diff, ESR/CRP/Ferritin, AST/ALT, PT/INR/PTT/Fibrinogen/d-dimers, LDH, TG

Lupus

- Know how patients meet diagnostic criteria and prominent organ involvement
- Note current symptoms and physical findings (rash, arthritis, nasal or oral ulcers, edema)
- Markers we follow: CBC w/ diff, ESR/CRP, dsDNA, C3/C4, urinalysis, spot urine protein to creatinine

Juvenile Dermatomyositis

- Look for muscle weakness and rash (heliotrope, gottron's papules, shaw sign)
- Markers we follow CBC w/diff, ESR/CRP, AST/ALT, aldolase/LDH/vWF antigen/CK
- MRI pelvis w/ gad to assess for muscle inflammation on presentation or if concern for flare

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Pediatric Rheumatology Patient Interviews:
Important Considerations for the New Patient H&P

HPI

- Chronological history of symptoms
- Recent trauma, insect bites, recent immunizations, sun exposure

ROS

- Constitutional: fever, fatigue, weakness, weight loss
- Respiratory: sinus congestion, cough, shortness of breath
- Cardiovascular: chest pain, palpitations
- GI: difficulty swallowing, abdominal pain, nausea, vomiting, diarrhea
- GU: menses, dysuria, hematuria,
- Skin: hair loss, photosensitivity, rashes
- Mucous membranes: oral or nasal lesions/ulcers, dry mouth, dry eyes
- Hematologic: easy bleeding/bruising (nosebleeds, gum bleeds, etc…), unexplained blood clots
- Musculoskeletal: blue fingers/toes/hands/feet *(if yes, painful? itchy?)*, limp, morning stiffness, joint pain/swelling/redness/warmth/range of motion *location, severity, onset characteristics, duration, aggravating/relieving factors, frequency of complaints*
- Neuro/psych: seizures, syncope, dizziness, memory loss, headache (migraines), sleep disturbance, depression, confusion, difficulty with school
- Activity: level of independence/dependence with activities of daily living, exercise ability

PMH: include birth history, immunizations and menstrual history

Allergies: specify medications and reactions

Medications and Treatments

- Current med doses and schedule, IV med infusions, start dates and tapers
- Side effects (nausea, injection site reactions)
- Past meds used to treat disease; response to these meds
- Assessment of adherence to med regimen – both patient's interpretation and yours *(for example, does a patient on long term steroids have the expected physical exam findings (moon facies, striae, buffalo hump, acne, etc…)? If not, this may indicate lack of adherence)*
- Alternative therapies *(herbal meds, acupuncture, biofeedback, etc…)*

Adjunctive/Multidisciplinary Care

- Ophthalmology exams
- Physical or occupational therapy
- Assistive devices
- Does patient wear sunblock? Medic-alert bracelet?

Developmental Hx: especially gross motor or fine motor delays

Family Hx *Use lay-person's terminology, since most people have never heard of these diseases!*

- Autoimmune diseases such as arthritis (at a young age, clarify rheumatoid vs. osteoarthritis), back pain (especially at a young age), thyroid disease, type 1 diabetes, lupus, dermatomyositis, etc.
- Skin disorders such as scleroderma or psoriasis
- Blood problems such as unexplained bleeding or clotting, strokes at a young age
- Other problems such as iritis (eye inflammation), inflammatory bowel disease
- Greater than 3 miscarriages or migraine headaches

Social Hx

- Pets, animal exposures, travel history
- Sexual activity, protection, STDs
- Tobacco use

Physical Exam *(from Zitelli's Atlas of Pediatric Physical Diagnosis)*

- Vital signs
- Constitutional
    - Cushingoid appearance
- HEENT and mucous membranes
    - Alopecia and fracturing of frontal hair
    - Sicca (dry eyes)
    - Xerostomia (dry mouth)
    - Ulcerations of palate
    - Nasal ulcers
    - Perforated nasal septum
- Respiratory
    - Pleural rubs
    - Decreased breath sounds
- Cardiovascular:
    - Rubs
    - Decreased or unequal pulses
- GI
    - Hepatosplenomegaly
    - Tenderness
- GU
    - Perianal skin tags, fissures
    - Genital ulcers
    - Balanitis circinata – small, shallow, painless ulcers of the glans penis and urethral meatus
- Skin: *don't forget the palms and soles!*
    - Heliotrope rash – violaceous eyelid edema
    - Malar rash
    - Discoid rash – rare in kids; often heals with atrophy and scarring
    - Raynaud phenomenon – triphasic color change in response to cold (whiteblue red)
    - Skin thickening, contractures, calcinosis
    - Palpable purpura
    - Livido reticularis – lacy, fishnet appearance of skin
    - Evanescent salmon-pink rash
    - Erythema nodosum – panniculitis with septal inflammation usually pretibial
    - Rheumatoid extensor nodules
    - Psoriasis – scaly, silver plaques usually over flexor surfaces, on scalp
    - Gottron papules – scaly, symmetric, erythematous papules over MCPs and PIPs
    - Keratodermia blennorrhagicum – clear vesicles on erythematous bases that progress to macules, papules, and keratotic nodules on the palms and soles
    - Striae
- Fingernails
    - Fingertip ulcers
    - Periungual erythema
    - End capillary telangiectasias or drop out *(use ophthalmoscope at +40 to look carefully, just below the cuticles on the nails)*
    - Onycholysis (lifting up of the distal part of the nail), nail pits
- Neuro/psych

- Mental status changes
- Abnormal neurologic exam

Patient Data

- Labs
- Imaging
- Biopsy results
- Other records reviewed & summarized

Assessment & Plan

- As you are reviewing the patient's H&P, think about the signs and symptoms listed above. What rheumatic diseases should be considered? Does the patient fit criteria for systemic lupus erythematosus, juvenile idiopathic arthritis, dermatomyositis, systemic sclerosis, scleroderma, vasculitis, periodic fever syndrome?
- Could the patient have an infectious, oncologic, or orthopedic problem instead of something rheumatic?
- What additional work-up is indicated?
- What treatment will be started?

Pediatric Rheumatology Reading List

PDFs of helpful articles are available on the wiki: https://wiki.library.ucsf.edu/display/PedsHouse/Rheumatology

General Pediatric Rheumatology

1. Cassidy, Petty, Laxer, and Lindsley. Textbook of Pediatric Rheumatology. 7th Ed. Saunders. 2016.
2. Babyn, P. and A. Doria. Radiologic Investigation of Rheumatic Diseases. *Pediatric Clinics of North America*. 52: 373-411. 2005.
3. Malleson, PN et al. Usefulness of Antinuclear Antibody Testing to Screen for Rheumatic Diseases. *Archives of Disease in Childhood*. 77: 299-304. 1997.
4. Sawyer JR, Kapoor M. The limping child: A systematic approach to diagnosis. *Am Fam Physician*. 2009 Feb 1;79(3):215-24.
5. Schaller, JG. The History of Pediatric Rheumatology. Pediatric Research. 58(5): 997-1007. 2005.

Juvenile Idiopathic Arthritis

1. Shenoi S. Juvenile Idiopathic Arthritis - Changing Times, Changing Terms, Changing Treatments. Pediatrics in Review. May 2017; 38(5) 221-231
2. Beukelman T et al. 2011 American College of Rheumatology recommendations for the treatment of juvenile idiopathic arthritis: initiation and safety monitoring of therapeutic agents for the treatment of arthritis and systemic features. *Arthritis Care Res*. 2011 Apr;63(4):465-82.
3. https://www.rheumatology.org/Practice-Quality/Clinical-Support/Clinical-Practice-Guidelines/Juvenile-Idiopathic-Arthritis ACR guidelines. New expected 2018.

Juvenile Spondyloarthropathy

1. Aggarwal A. Enthesitis-related arthritis. Clinical Rheumatology. Nov 2015; 34(11) 1839-1846
2. Katsicas M. Biologic agents in juvenile spondyloarthropathies. Pediatric Rheumatology. 2016; 14(17)
3. Adrovic A. Juvenile Spondyloarthopathies. Current Rheumatology Reports. August 2016; 18:55

Psoriatic Arthritis

1. Stoll ML, Punaro M. Psoriatic juvenile idiopathic arthritis: a tale of two subgroups. *Curr Opin Rheumatol*. 2011 Sep;23(5):437-43.
2. Ravelli A. The conundrum of juvenile psoiratic arthrits. Clinical and Experimental Rheumatology. 2015; 33(93) S40-S43

Macrophage Activation Syndrome / Hemophagocytic Lymphohistiocytosis

1. http://ard.bmj.com/content/75/3/481 2016 Classification Criteria for MAS in sJIA by Ravelli
2. Schulert GS, Grom AA. Pathogenesis of Macrophage Activation Syndrome and Potential for Cytokine-Directed Therapies. *Annual review of medicine*. 2015;66:145-159. doi:10.1146/annurev-med-061813-012806.

Systemic Lupus Erythematosus

1. Bogia RE. Childhood-onset systemic lupus erythematosus: an update. Current Opinion in Rheumatology: Sept 2015; 27(5)483-492
2. Kaul A. Systemic lupus erythematosus. Nature Reviews Disease Primers. June 2016
3. Weiss JE. Pediatric systemic lupus erythematosus: More than just a positive antinuclear antibody. *Pediatr Rev*. 2012 Feb 33(2):62-73.

Antiphospholipid Antibody Syndrome

1. Aguiar C. Pediatric Antiphospholipid Syndrome. *Current Rheumatology Reports.* April 2015; 17:27
2. Meroni P. What is known about pediatric antiphospholipid syndrome? *Expert Review of Hematology*. 2016 Oct;9(10):977-85.

Neonatal Lupus

1. Johnson B. Overview of Neonatal Lupus. *Journal of Pediatric Health Care.* 2014; 28(4) 331-341

Juvenile Dermatomyositis

1. Batthish M, Feldman BM. Juvenile dermatomyositis. *Curr Rheumatol Rep*. 2011 Jun;13(3):216-24.
2. http://onlinelibrary.wiley.com/doi/10.1111/joim.12444/full The JIIMs: pathogenesis, clinical and autoantibody phenotypes and outcomes (Rider and Nistala 2016)

Scleroderma

1. Zulian, F. Scleroderma in children: an update. *Current Opinion in Rheumatology.* 2013 Sep; 25(5) 643-650
2. Zulian, F. Systemic sclerosis and localized scleroderma in childhood. *Rheum Dis Clin North Am*. 2008 Feb;34(1):239-55

General Vasculitis

1. Weiss PF. Pediatric vasculitis. *Pediatr Clin North Am*. 2012 Apr;59(2):407-23.

IgA Vasculitis (Henoch-Schonlein Purpura)

1. Yang YH. The diagnosis and classification of Henoch-Schonlein purpura: An updated reivew. *Autoimmunity Reviews.* May 2015. 13(4-5) 355-358

Kawasaki Disease

1. McCrindle B et al. Diagnosis, treatment, and long-term management of Kawasaki Disease. A Scientific statement for Health Professionals from the AHA. *Circulation.* 2017; 135
2. Scuccimarri R. Kawasaki disease. *Pediatr Clin North Am*. 2012 Apr;59(2):425-45.
3. https://www.ncbi.nlm.nih.gov/pubmed/27749951 Coronary Artery Complication in KD and the important of early intervention: a systematic review and meta-analysis. JAMA Pediatrics 2016.

Polyarteritis Nodosa

1. Kawakami T. A Review of Pediatric Vasculitis with a Focus on Juvenile Polyarteritis Nodosa. *American Journal of Clincal Dermatology.* Dec 2012; 13 (6) 389-398

Sarcoidosis

1. Fauroux, B. Paediatric Sarcoidosis. *Paediatr Respir Review*. 6(2): 128-33. 2005

Behcet's Disease

1. Ozen S. Pediatric onset Behçet disease. *Curr Opin Rheumatol*. 2010 Sep;22(5):585-9. Review.

Periodic Fever Syndromes

1. Hashkes PJ, Toker O. Autoinflammatory syndromes. *Pediatr Clin North Am*. 2012 Apr;59(2):447-70.
2. Lachmann HJ. Clinical immunology review series: An approach to the patient with a periodic fever syndrome *Clin Exp Immunol*. 2011 Sep;165(3):301-9.

CRMO

1. Ferguson PJ, Sandu M. Current understanding of the pathogenesis and management of chronic recurrent multifocal osteomyelitis. *Curr Rheumatol Rep*. 2012 Apr;14(2):130-41.

Uveitis

1. Kim SJ. Diagnosis and management of noninfectious pediatric uveitis. Int Ophthalmol Clin. 2011 Winter;51(1):129-45.

Bone and Joint Infections

1. Gutierrez, K. Bone and Joint Infections in Children. *Pediatric Clinics of North America*. 52: 79-94. 2005.
2. Frank, G et al. Musculoskeletal Infections in Children. *Pediatric Clinics of North America*. 52: 1083-1106. 2005

Lyme Disease

1. Feder HM Jr. Lyme disease in children. *Infect Dis Clin North Am*. 2008 Jun;22(2):315-26, vii.

Post-streptococcal Syndromes

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