Juvenile Idiopathic Arthritis: Awareness and RX Interventions

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“If given the choice, would you rather live your life never having an ability or having an ability then loosing it?”

~Annette Beach~
Defined as: “Joint inflammation, often accompanied by pain, swelling, stiffness, and deformity” (Taber’s, 2009, 187).

- Is an umbrella term for over 100 diseases
- More than 46 million adults have some form
- 8.4 million young adults between the ages of 18-44
IN FACT:

- Arthritis affects about 300,000 children in the US today

- New Jersey Chapter of the Arthritis Foundation says, “The number of children living with arthritis in the United States is more than muscular dystrophy, hemophilia, and cystic fibrosis combined.”
JUVENILE ARTHRITIS (JA):

The Arthritis Foundation defines JA as:

- An umbrella term used to describe the many autoimmune and inflammatory conditions that can develop in children ages 16 and younger
- Can occur anytime from birth to 16 years of age
MOST COMMON FORM:

Previously known as Juvenile Rheumatoid Arthritis (JRA)

- The two terms are **not** interchangeable b/c juvenile idiopathic arthritis includes 2 diagnoses that were not previously part of the definition of juvenile rheumatoid arthritis
JIA VS. JRA:

The term juvenile rheumatoid arthritis (JRA) has fallen out of favor for a number of reasons:

• The term implies that it is simply a pint-sized replica of the condition Rheumatoid Arthritis found in adults.

• However, it is believed that only 10% of children who are diagnosed with JRA have a disease that mirrors RA found in adults.

• Some physicians will still use the term Juvenile Rheumatoid Arthritis however most prefer using Juvenile Idiopathic Arthritis.
## JIA vs. JRA – Understanding the Difference

Juvenile idiopathic arthritis and juvenile rheumatoid arthritis can’t be used interchangeably, as there are differences between the diagnoses they include. For more detail about the new JIA language that’s being adopted, you might want to refer to this chart:

<table>
<thead>
<tr>
<th>NEW CLASSIFICATION</th>
<th>DESCRIPTION</th>
<th>OLD CLASSIFICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Systemic Arthritis</td>
<td>Affects the entire body, not just joints and is preceded by a fever and a faint rash; typically diagnosed in young children</td>
<td>Systemic-onset JRA</td>
</tr>
<tr>
<td>Oligoarthritis</td>
<td>Arthritis of one to four joints during the first six months of disease; typically diagnosed in young children</td>
<td>Pauciarticular JRA</td>
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<tr>
<td>Persistent</td>
<td>Affects no more than four joints after first six months</td>
<td></td>
</tr>
<tr>
<td>Extended</td>
<td>Affects more than four joints after first six months</td>
<td></td>
</tr>
<tr>
<td>Polyarthritis (RF-negative)</td>
<td>Affects five or more joints in the first six months of disease; test for rheumatoid factor (RF) are negative</td>
<td>Polyarticular JRA (RF does not alter classification)</td>
</tr>
<tr>
<td>Polyarthritis (RF-positive)</td>
<td>Affects five or more joints in the first six months of disease; tests for RF are positive on two occasions at least two months apart; usually appears in late childhood</td>
<td>Polyarticular JRA (RF does not alter classification)</td>
</tr>
<tr>
<td>Enthesitis-related Arthritis</td>
<td>Affects the entheses — where tendons attach to bone — and can move to the spine or develop as one of the juvenile spondyloarthropathies; affects boys more often than girls</td>
<td>Excluded in JRA classification, but some youth in this group at onset may be similar to late-onset pauciarticular JRA</td>
</tr>
<tr>
<td>Psoriatic Arthritis</td>
<td>Arthritis that is preceded or follows development of the skin condition psoriasis; pitting or ridging of fingernails also a sign</td>
<td>Excluded in JRA classification</td>
</tr>
<tr>
<td>Other</td>
<td>Arthritis of unknown cause persisting for at least six weeks that either does not fulfill criteria for any categories or fulfills criteria for more than one category</td>
<td></td>
</tr>
</tbody>
</table>
JUVENILE IDIOPATHIC ARTHRITIS:

Categorized into 5 main subgroups based on the number of joints involved during the first 6 months and the involvement of other organs:

- Systemic arthritis
- Oligoarthritis
- Polyarthritis
- Endthesitis-related arthritis
- Psoriatic arthritis
SYSTEMIC JIA:

Also known as Still’s disease

- Affects the entire body
- Accounts for about 10-20% of children with JIA

Symptoms can include:

- Severe joint inflammation throughout the body
- Inflammation of the outer lining of the heart and lungs
- The heart and lungs themselves may become inflamed
- May have anemia
- Lymph nodes, liver and spleen may become enlarged
- High fever spikes
- Pale red spotted rashes that come and go
SYSTEMIC JIA:
PALLE RED SPOTTED RASH
OLIGOARTHRITIS:

Most common form of JIA

Symptoms can include:

• Inflammation in up to four joints

• Mostly in larger joints like the knees

• Uveitis- The iris or colored part of the eye may become inflamed
ARTHRTIC KNEE IN TODDLER:

CROSS SECTION

Normal Joint

- Synovial Membrane
- Cartilage

Front

Kneecap

Back

Synovial Fluid

Juvenile Idiopathic Arthritis Joint

- Inflamed Synovial Membrane
- Excess Synovial Fluid
- Bone Overgrowth
- Thinning Cartilage
POLYARTHRITIS:
An aggressive arthritis that affects 5 or more joints
• Most often a symmetrical arthritis
• rheumatoid factor positive or negative

Rheumatoid Factor:
• Is a protein or antibody found in the blood which can bind to other antibodies
• The presence of significant concentrations of RF in the blood can indicate a patient being diagnosed as RF positive
• Much lower prevalence in Juvenile Arthritis

Symptoms can include:
• Inflammation often in the small joints of the fingers and hands
• Can also affect knees, hips, ankles, feet, TMJ, cervical spine
• Fevers and headaches
ENTHESITIS-RELATED ARTHRITIS:

Several different forms of Juvenile Spondyloarthropathies (JSP)

- Affects the spine, tendons, hips and knees
- Often asymmetrical
- Affects boys more often than girls

Symptoms can include:

- Morning stiffness lasting >30 minutes
- May wake with back pain that forces them out of bed
- Inflammation of the eyes, lungs and heart valves
- Fever, fatigue, weight loss
- Anemia
- Inflammatory bowel disease
PSORIATIC JIA:

A chronic disease characterized by a form of inflammation of the skin (psoriasis) and joints (arthritis)

~Psoriasis is a patchy red scaly rash that forms on the surface of the skin
~rapid cell proliferation- skin cells grow up to 10 times faster than normal skin

Affects both small and large joints:
~Dips, wrists joints, sacroiliac joints, knees, ankles, toes

Symptoms can include:
~Eye inflammation in 10-20% of youth
~Nail abnormalities
~Morning stiffness lasting >30 minutes
~Fatigue
~Low back pain
Psoriasis is a chronic inflammatory skin disease. It occurs when the immune system sends out faulty signals that speed up the growth cycle of skin cells. The most common form, plaque psoriasis, appears as raised, red patches or lesions covered with a silvery white buildup of dead skin cells, called scale.
ARTHRITIS AND EXERCISE:

• Regular exercise for patients with JA is just as important as taking their medications.
• Keeping the muscles surrounding the affected joints strong will alleviate pain and help prevent joint damage.
• Keeps joints functioning at their optimal level.
• Helps combat fatigue.
• Maintains bone strength.
• Nutrients to joints.
PHYSICAL THERAPY INTERVENTION:

Physical Therapy may be required when the child’s condition declines, when they have difficulty with activities of daily living, or as a preventative proactive regiment.
PHYSICAL THERAPY EVALUATION:

• The physical therapist will first evaluate the child’s movements using age appropriate exercises. For older children they might be asked to walk, run, climb steps, etc. For the younger child this will be accomplished through play.

• Posture will evaluated for assessment of the spine

• Therapeutic measurements of affected joints will be taken bilaterally

• Manuel Muscle Testing

• Measurement of limb length may sometimes be taken since some children with JA have limbs that grow unevenly

• Check for contractures
THE PLAN OF CARE
IT’S ALL ABOUT FUNCTION

• Medications cannot always restore the loss of joint function but that is something that physical therapy can do

• The plan of care will be tailored to each individual child’s needs

• Therapeutic exercises can be modified as needed

• A home exercise program is given often
AEROBIC EXERCISE
AQUATIC THERAPY
YOGA FOR KIDS!
RANGE OF MOTION
LOW IMPACT STRENGTH TRAINING
MODALITIES
TREATMENT GOALS:

I like to think of arthritis treatment as **DAMAGE CONTROL**

There is no cure so we must:

- control symptoms
- prevent damage to joints
- prevent muscle atrophy and joint contractures
- Keep these children walking for as long as possible
- Keep their joints strong & within the greatest ROM possible
- Keep them doing their activities of daily living
- Keep them MOVING
“If given the choice, would you rather live your life never having an ability or having an ability then loosing it?”

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FOR MORE INFORMATION VISIT:

Arthritis Foundation:
http://www.arthritis.org/

Arthritis Today:
http://www.arthritistoday.org/
REFERENCES:


