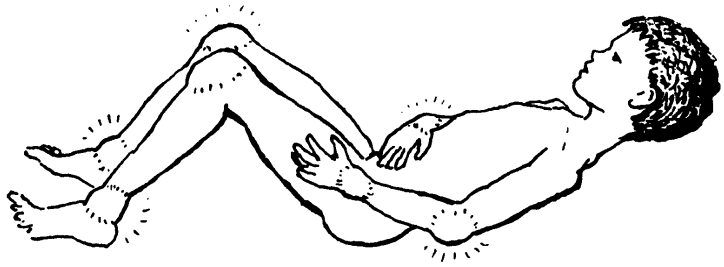
CHAPTER 15

# Painful Joints



Joint pain in children has many causes. Depending on the cause, different treatments may be needed. The chart that follows will help you decide what the cause of chronic (long-lasting) joint pain in a child might be. However, other less common causes may also be possible. Sometimes laboratory tests may be needed to be more certain.

Specific treatment is needed for certain kinds of joint pain—especially those caused by infection. However, some basic principles of care and therapy apply to most joint pain, regardless of the cause. Following the chart of causes, you will find some general guidelines for the care of joint pain. These guidelines are described in more detail in Chapter 16 on juvenile arthritis.

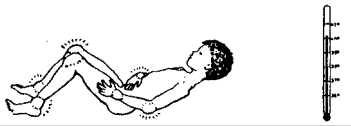
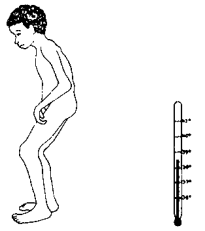
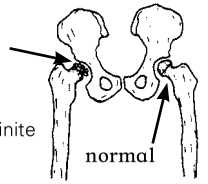
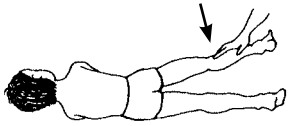
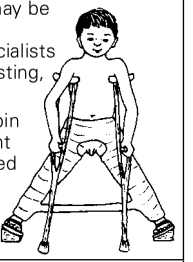
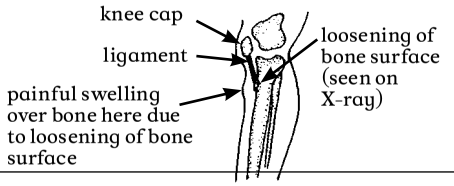
Three chapters on disabilities with joint pain are "Juvenile Arthritis" (Chapter 16), "Rheumatic Fever" (Chapter 17), and "Hip Problems" (Chapter 18). However, arthritis (joint pain and damage) can occur with any disability where paralysis or muscle imbalance causes unhealthy positions or twisting of joints. Many children with polio develop painful dislocations or, when they are older, arthritis.

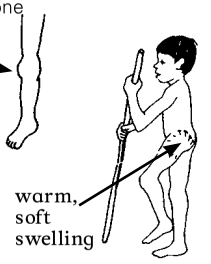
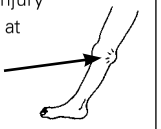
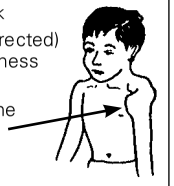
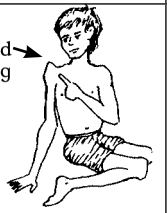
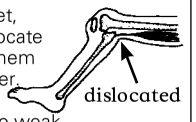
**NOTE**: The chart does not include the many infectious diseases that may cause temporary joint pain. These do not usually lead to long-term disabilities. For details of diagnosis and treatment of illnesses that cause temporary joint pain, consult a health worker or see a medical text such as ***Where There Is No Doctor.***

**CAUTION:** Try not to confuse similar illnesses. Two of the most common causes of joint pain in children are rheumatic fever and juvenile arthritis. Even some doctors and health workers get them mixed up and diagnose juvenile arthritis as rheumatic fever. The two illnesses do have similarities. However, rheumatic fever almost always follows a period of sore throat with fever. If the child did not have a sore throat, probably the joint pain is not due to rheumatic fever. When in doubt, however, 10 days of penicillin may be a wise precaution. See p. 154 for information on doses of penicillin.

Carefully study the differences between the common causes of joint pain. If you are not sure, seek help from someone with more experience.

## COMMON CAUSES OF CHRONIC JOINT PAIN IN CHILDREN (pain that lasts more than 2 weeks or keeps coming back)

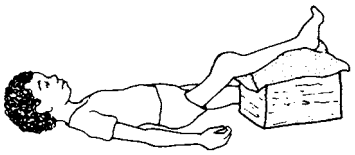
| Problem | Age it often begins | Pain in **one** or in **several** joints | Fever | Other signs | Treatment and therapy |
|---|---|---|---|---|---|
| **rheumatic fever** (see Chapter 17) | 5 to 15 years old | Usually pain is in **several** joints. (Rarely it begins with severe pain and swelling in only one joint, but often there is also some pain in other joints.) Often pain starts in ankles and wrists, then knees and elbows. Pain may change from some joints to others.  | High fever is typical (usually starts suddenly). | • joint pain and fever usually begin 1-3 weeks after severe sore throat with fever (strep throat)<br>• small lumps may appear under the skin over joints<br>• sometimes wiggly reddish circles on skin<br>• in severe or advanced cases, heart problems ('heart murmur', difficulty breathing, or chest pain)<br>• usually gets better in 6 weeks to 3 months—but likely to come back | • penicillin V (see p. 154)<br>• ibuprofen with precautions to avoid stomach upset (see p. 134)<br>• rest<br>• range-of-motion (ROM) exercises<br>• apply heat or cold to painful joints |
| **juvenile arthritis** (also called juvenile rheumatoid arthritis or Still's disease) (see Chapter 16) | Any age, but often begins between 2-7 or 9-12 years old<br>Lasts for years (Often the arthritis gets better when child becomes sexually developed). | May affect **few** joints, many joints, or almost all joints.<br>(In 1/3 of children it begins in only one joint—later it may affect others.)  | Often some fever when pain is worst. (Rarely, it begins with high fever.) | • usually no history of sore throat<br>• severely painful, hot, swollen joints often leading to muscle weakness, contractures and deformities<br>• sometimes a rash that comes and goes<br>• may begin little by little, or suddenly and severely<br>• one or both eyes may become red and sore (iritis) and become damaged  <br>• usually lasts for years with periods when it gets better and then worse | • ibuprofen with precautions to avoid stomach upset (see p. 134)<br>• apply heat or cold to painful joints<br>• ROM exercises<br>• "exercises-without-motion" to strengthen muscles<br>• lots of rest, but also moderate activity<br>• lots of understanding and support |
| **destruction or slipping of cap of thigh bone at the hip** (see Chapter 18) | Destruction: mostly boys 4-8 years old<br>Slip: mostly boys 11-16 years old | pain in **one** hip (rarely both)<br>Destruction:<br>• Cap of head of thigh bone breaks into pieces and gradually re-forms in 2 to 3 years<br>• X-ray needed to make definite diagnosis   | no fever | • child begins to limp—often without complaining of pain<br>• may complain of pain in knee or thigh (or sometimes hip); gradually develops weakness for raising leg like this  | • for destruction: it may be best to do nothing, although many specialists still recommend casting, braces or surgery<br>• for slip: surgery to pin the cap into the right place may be needed  |
| **below-knee pain** (Osgood-Schlatter disease) | 11-18 years old | usually **one** knee only   | no fever | • especially in very active, strong children<br>• may begin with pain after jumping, running, or forceful exercise | • avoid forceful exercises or activities until pain goes away (usually in 2 to 3 years)<br>• ibuprofen or paracetamol (see p. 134) and hot (or cold) soaks for pain<br>• the problem may last for years but in time will go away, although the bony bump remains |

| | | | | | |
|---|---|---|---|---|---|
| **"hot" infection** of a joint (bacterial infection: staphylococcus, streptococcus, typhoid, etc.) | any age, but rarely in very young children | **one** hip, knee or ankle joint<br>rarely more than one joint | often low fever, sometimes high fever, at least at first | • sometimes follows injury to joint or illness such as typhoid<br>• usually begins suddenly<br>• joint often red, hot, swollen<br>• joint destruction may be severe—leading in time to a fused or 'frozen' joint, or dislocation  | • identify cause of infection (lab tests needed)<br>• treat with appropriate antibiotic<br>• apply splint to avoid motion and activity during early stage |
| **"cold" or "slow" infection** of a joint<br>tuberculosis (TB), (or less commonly, syphilis, gonorrhea, or fungus—which are not discussed here) | any age, but mostly in older children and young adults | **one** hip or knee, or in backbone (see TB of spine, p. 165.)<br>Joint may gradually become large or swollen, but not very hot or red.<br>often much pain (sometimes no pain until the bone or joint damage is severe)   | no fever | • often history of TB in family<br>• only half of these children have signs of lung TB<br>• strongly positive TB skin test (test has meaning only in children not vaccinated against TB)<br>• child often quite thin or sickly (but not always)<br>• pain usually begins little by little and may become so bad that the child cannot move his leg | • anti-tuberculosis medicines (2 or 3) for at least 1 year (See *Where There Is No Doctor,* p. 180)<br>• daily ROM exercises<br>• ibuprofen or paracetamol (see p. 134) and hot soaks for pain<br>• "exercises-without-motion" to keep muscle strength (see p. 140) |
| **sprains** and **torn ligaments** | older child or adult | **one** joint only<br>hot and swollen at first  | no fever | • ankles and knees are common sites<br>• often results from forceful twisting<br>• joint may be loose or floppy, and remain weak for months or years. It may easily be twisted or injured again | • apply cold during first day after sprain; following days, apply heat<br>• avoid motion but keep joint in good position<br>• ibuprofen or paracetamol for pain (see p. 134)<br>• provide temporary support with elastic or adhesive bandage or (in severe cases) a cast or ankle brace |
| **injury to joint surface** (for example: torn meniscus, bursitis) | older child or adult | usually **one** joint only, often the knee | no fever | • usually after twist or strain or injury<br>• may hurt suddenly or go weak at certain times but not at others<br>• swelling or 'liquid' under skin may form behind knee or on the edge of joint  | • provide support with elastic bandage<br>• rest, moderate activity<br>• gentle ROM exercises<br>• ibuprofen or paracetamol for pain (see p. 134)<br>• if problem continues, seek help of a specialist |
| **dislocated joint due to injury**<br>(dislocation is when a bone comes out of its socket) | at birth or in older child | **one** joint<br>Hips, shoulder, and elbows are most common. | no fever | • at first, very painful and weak<br>• in weeks or months (if uncorrected) pain becomes less but weakness often remains<br>• joint looks different from same joint on other side of body  | • have an experienced person try to put the bone back in its socket (the same day or soon after the dislocation occurs). Older dislocations and some new ones may need surgery<br>• provide support for a few weeks with elastic bandage (especially shoulders and knees)<br>• gently do ROM exercises every day |
| **dislocated joint due to muscle weakness** or muscle imbalance | occurs in older child with polio, other paralysis, or arthritis | usually **one** joint  <br>pain mild to severe, often occurs with weight bearing and increases with time | no fever | • atypically-shaped joints<br>• knees, shoulders, hips, feet, elbows may gradually dislocate because muscles pulling them in one direction are stronger, or because muscles surrounding the joint are so weak  <br>• careless stretching exercises may cause or increase dislocation | • try to put dislocated joint back into place<br>• avoid positions that force joint out again<br>• for partial dislocations of knee, careful stretching exercises may help—but take care to avoid further dislocation (see p. 374) |

## How to care for painful joints

### 1. REST THE JOINTS

The more painful the joint, the more it needs rest. Some movement is important, but no forceful exercise or heavy use of the joint.



If joints are swollen, it helps to keep them lifted up.

### 2. HEAT AND COLD

Applying heat (see side box) or cold to the joint often reduces pain and makes motion easier. For cold, use packs of ice wrapped in a cloth or towel for 10 or 15 minutes. Experiment to see which works better. Usually cold works better on hot, inflamed joints and heat on sore, stiff joints.

Hot wax can be used instead of hot water. Some specialists say that it does not do more good than hot water, but persons with arthritis find it very soothing.

Heat beeswax or paraffin until it just melts (but not too hot—test it first on a finger).

Dip the hand or painful joints into the hot wax.

Take it out. The wax will quickly harden.

When it cools, dip it in again.

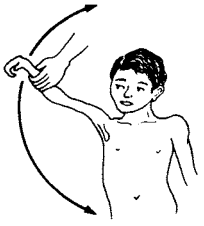
### 3. PAINKILLERS

Ibuprofen usually works best, because it reduces both pain and inflammation. For doses and precautions, see p. 134.


**Note:** For severe pain, splints to prevent motion help reduce pain and prevent contractures.

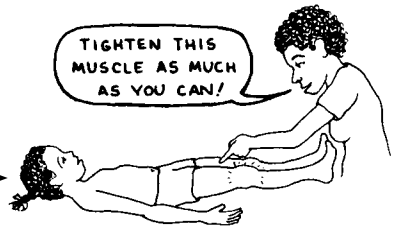
### 4. RANGE-OF-MOTION (ROM) EXERCISES

It is important to move the joints through their full range of motion at least twice a day (especially if splints are used). If it hurts, apply heat or cold first, and move them very slowly. Do not force! See Chapters 16 and 42.



### 5. EXERCISES WITHOUT MOTION

These are exercises to strengthen muscles without bending the painful joints. For example, a child with a painful knee can keep her thighs strong by tightening her thigh muscles while her leg is straight. She should hold the muscles tight until they get tired and begin to tremble. This will strengthen them and keep them strong (see pp. 140 and 368).



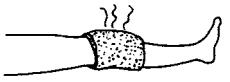

### 6. CONTINUE DAILY ACTIVITIES

With most joint pain, it is important that the child remain fairly active. She should try to continue with all daily activities that do not strain or overwork the painful joints. Moderate activity is usually recommended (except for acute infections or injuries, when complete rest may be needed for several days).

### HOT SOAKS

1. Boil water. Let it cool until you can hold your hand in it comfortably.

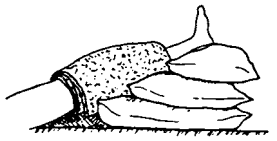
2. Wet a thick cloth or towel in hot water and squeeze out the extra.



3. Wrap the cloth around the joint.

4. Cover the cloth with a piece of thin plastic.

5. Wrap with a dry towel to hold in the heat.



6. Keep the joint raised.
7. When the cloth starts to cool, put it back in the hot water and repeat.

## Designs for therapy baths

Floating and playing in water provide exercise and therapy for many kinds of physical disabilities—especially those in which movement is limited because of pain or muscle spasms.

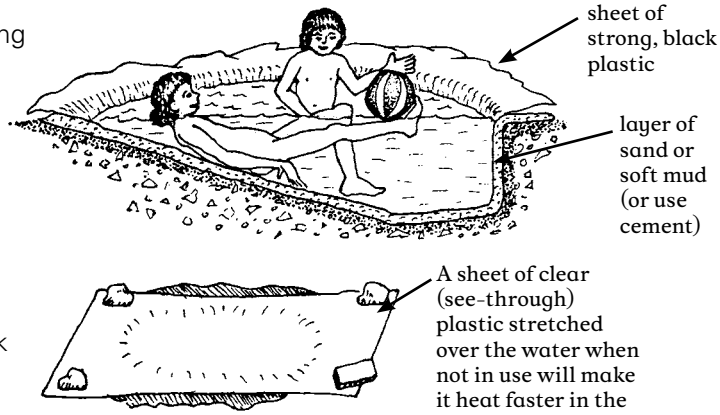

For children who have the opportunity, bathing, swimming, and playing in rivers and ponds with other children is good—but only when the rivers or pools are not dangerous and do not transmit diseases.

This "therapy pool" at PROJIMO has one large deep tank for standing, swimming, and play. And it has 2 narrow "water lanes" at different depths for children to learn to walk while supported by water. Children with and without disabilities play here together.

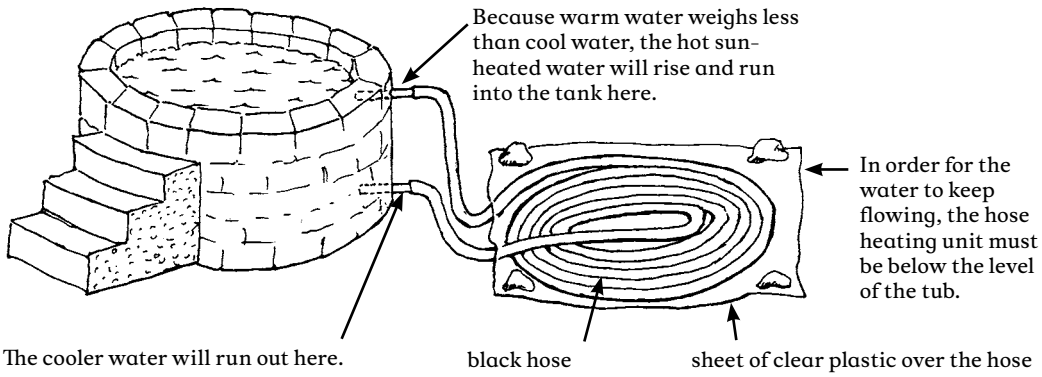
### TUBS OR TANKS OF SUN-HEATED WATER (solar heating)

Bathing in warm water is especially helpful. The penetrating heat of the water helps to improve blood flow, calm pain, and relax the muscles.

You can dig a hole in the ground and cover its sides with plastic sheets or cement to prevent the water from leaking out. So that the sunlight heats the water faster, use black plastic, or paint the cement a dark color. (Green is friendlier than black.)




### TUB WITH A SELF-CIRCULATING SUN HEATER



## MEDICINES FOR PAIN

Some children have pain that will go away or lessen only by using pain medicine. For conditions that include swollen joints, like arthritis and rheumatic fever, ibuprofen and aspirin are usually the best medicines because they help control pain and also reduce inflammation (swelling and damage to joints). If there are no swollen joints, use paracetamol (acetaminophen) for pain. Both paracetamol and aspirin can also be used to reduce fever.

### Aspirin

Precautions: Do not give aspirin to people with asthma, children younger than 1 year old, or children with flu signs. If possible, avoid giving to children younger than 12 years old and use ibuprofen instead.

Aspirin can cause stomach pain or heartburn. To avoid this, give with food or a large glass of water.

| Age | Dose | How to take |
|---|---|---|
| 12 years and older | 300-600 mg | By mouth, every 4 to 6 hours as needed |

### Ibuprofen

Precautions: Do not give ibuprofen to children younger than 1 year old.

Ibuprofen can cause stomach pain or heartburn. To avoid this, give with food or a large glass of water.

| Age | Dose | How to take |
|---|---|---|
| 1 to 2 years | 75 mg | By mouth, every 6 to 8 hours as needed |
| 2 to 3 years | 100 mg | By mouth, every 6 to 8 hours as needed |
| 4 to 5 years | 150 mg | By mouth, every 6 to 8 hours as needed |
| 6 to 8 years | 200 mg | By mouth, every 6 to 8 hours as needed |
| 9 to 10 years | 200 to 250 mg | By mouth, every 6 to 8 hours as needed |
| 11 years | 300 mg | By mouth, every 6 to 8 hours as needed |
| 12 years and older | 200 to 400 mg | By mouth, every 4 to 6 hours as needed |

### Paracetamol (acetaminophen)

Precautions: Do not give more than the recommended amount. Too much is poisonous to the liver.

| Age | Dose | How to take |
|---|---|---|
| under 1 year | 62 mg (half of ¼ of 500 mg tablet) | By mouth, every 4 to 6 hours as needed |
| 1 to 2 years | 125 mg (¼ of 500 mg tablet) | By mouth, every 4 to 6 hours as needed |
| 3 to 7 years | 250 mg (½ of 500 mg tablet) | By mouth, every 4 to 6 hours as needed |
| 8 to 12 years | 375 mg (¾ of 500 mg tablet) | By mouth, every 4 to 6 hours as needed |
| over 12 years | 500 to 1000 mg | By mouth, every 4 to 6 hours as needed |

For information about other medicines for pain, see the Green Pages in *Where There Is No Doctor*.