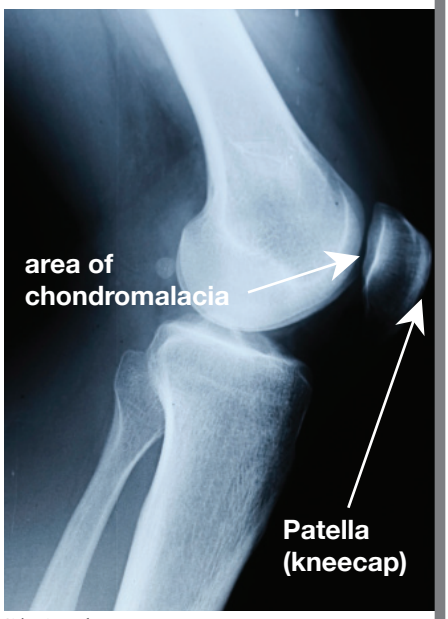
chondromalacia patella

what is chondromalacia patella?

Chondromalacia patella is the softening of the cartilage on the underneath surface of the patella (kneecap). When this cartilage lining becomes softened it begins to breakdown producing irregularities to the underneath surface of the patella. Chondromalacia patella is caused by excessive and uneven pressure on the cartilage from structural alignment of legs and muscle imbalances that can be caused from rapid growth or poor technique of training skills. Pain is around the patella and can sometimes be behind the knee.



Side View of Knee

who is at risk?

- Children/adolescents who participate in sports that require repetitive squatting, jumping, running, stair stepping or kneeling (i.e. volleyball, football, basketball, soccer, track, hockey, gymnastics, dance, etc.).
- Children/adolescents who have a traumatic fall on anterior surface of the knee.
- Children/adolescents who have a family history of chondromalacia patella.
- Children/adolescents who have poor flexibility (tight muscles) in legs during rapid growth.
- Children/adolescents who have had improper training techniques or equipment.

what are the symptoms?

- Pain is often intermittent, but usually occurs during squatting, kneeling and with stair climbing.
- It can be described as non-specific global knee pain or it can be specific to one area.
- It can be described as dull/achy or sharp/stabbing pain in the knee.
- It can be described as popping, clicking, grinding or giving out in the knee.
- The child/adolescent will complain of pain with activity and immediately following activity.
- The child/adolescent might have muscular tightness in the quadriceps/hamstrings (thigh) muscles, iliotibial band (outside of thigh) and gastrocnemius /soleus (calf) muscles.
- The child/adolescent could have limited knee range of motion because of pain.
- The child/adolescent will have poor tolerance to having the knee in a bent position.
- This condition often has minimal swelling in the knee area.
- The child/adolescent might limp when walking.
- The child/adolescent might have muscle weakness/imbalance in the muscles around the knee area.

what are the treatment options?

Conservative/non-surgical treatment:

- Rest from aggravating activities or "relative" rest.
- Ice the area after activity and when painful for 10 to 20 minutes up to once an hour.
- Muscle stretching to improve flexibility.
  - Stretching should be done both before and after activity.
  - Concentrate on hamstring (back of thigh), quadriceps (front of thigh), iliotibial band (outside of thigh) and gastrocnemius/soleus (calf) stretching.
  - It is beneficial to strengthen the leg with emphasis on the inside quadricep muscle, the VMO (vastus medialis) muscle. It is recommended to avoid deep squats, the leg press, and long arc/ short arc exercises.
- Patellar (knee) braces for support may be beneficial.
- If the condition does not improve, a referral to physical therapy to address pain, swelling, range of motion, flexibility, strength, gait, bracing/taping and a return to sport training program will usually improve symptoms.

Surgical treatment:

- Occasionally surgical treatment may be used to treat a coexisting problem allowing continued physical therapy. The main focus of treatment, even with surgery, is muscle strengthening in combination with improved flexibility.

what is the time frame for returning to activity/sport?

Most patients require 12 to 16 weeks of an exercise program. Depending on the severity of the pain, this can at times be done while patients continue with their athletic activities.

what are the long-term side effects?

Slight modifications in lifestyle are typical. Avoiding excessive squatting and lunging activities coupled with a sustained program to maintain muscular strength is effective for the great majority of patients.

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