

## Patellofemoral Pain Syndrome Rehabilitation Program (Anterior Knee Pain Syndrome)

The Gundersen Health System Sports Medicine Patellofemoral Pain Syndrome Rehabilitation Program is an evidence-based program that allows patients to progress to vocational and sports-related activities as quickly and safely as possible. Individual variations will occur based on patient tolerance and response to treatment. Because there are numerous etiologies for patellofemoral pain, it is important that a comprehensive exam be performed to direct treatment planning. Possible treatment interventions include:

- Orthotic / shoe recommendations
- Stretching: flexibility, patellofemoral mobilizations
- PT modalities: ultrasound, phonophoresis or iontophoresis
- NEMES, IFC (Effusion/Pain), cryotherapy
- biofeedback,
- Cross friction massage
- Patellofemoral assistive devices: bracing, taping
- Activity modifications
- Therapeutic exercise: warm-up, total leg strength, OKC and CKC exercises (avoid ROM thru chondrosis or pain), functional exercises
- Selective VMO activation techniques:
- NEMES, hip adduction with quad activity
- Proprioceptive exercises
- Core stability exercises

Classifying the patient into an appropriate category (excessive lateral pressure syndrome, global patellar pressure syndrome, patellar instability, direct patella trauma, soft tissue lesions, overuse syndromes, apophysitis, or osteochondritis dissecans) will help guide specific therapeutic interventions. Outlined below are areas of emphasis and possible treatment strategies for each category. Contact us at 1-800-362-9567 ext. 58600 if you have questions or concerns.

<p><u>Excessive Lateral Pressure Syndrome:</u></p> <ul style="list-style-type: none"> <li>- low load long duration stretch of tight structures (ie taping)</li> <li>- US to lateral retinaculum prior to mobilizations</li> <li>- Stretch tight lateral retinaculum with medial glides and tilts</li> <li>- Flexibility exercises with emphasis on ITB</li> <li>- Quadriceps strengthening</li> </ul>	<p><u>Global Patellar Pressure Syndrome:</u></p> <ul style="list-style-type: none"> <li>- Avoid taping</li> <li>- Emphasize patellar mobilizations</li> <li>- Frequent unresisted knee ROM</li> <li>- Flexibility exercises</li> <li>- Initially strengthen with M&gt;I, SLR, mini-squat progressing to leg press, wall squat, lunges, step-up</li> </ul>	<p><u>Patellar Instability:</u></p> <ul style="list-style-type: none"> <li>- Taping and/or bracing</li> <li>- Address malalignment through stretching and orthotics</li> <li>- Pain-free quads strengthening</li> <li>- Activity modifications</li> </ul>	<p><u>Direct Patellar Trauma:</u></p> <ul style="list-style-type: none"> <li>- LE flexibility</li> <li>- Low resistance ROM initially</li> <li>- Quad strengthening M&gt;I, SLR, mini-squat, short arc avoiding painful ROM</li> <li>- progress to leg press, step-up, lunge</li> </ul>
---	---	---	---

Plicia Soft Tissue Lesion:

- Decrease inflammation with modalities
- XFMassage to reduce fibrotic scarring
- Address contributing factors ie: muscle tightness, weakness, malalignment

Infrapatellar Fat Pad Syndrome:

- Tape to unload fat pads
- Address malalignment through stretching and orthotics
- Pain-free strengthening avoid terminal extension
- Phonophoresis/ Ionto followed by cryotherapy
- Heel lifts

Overuse Syndrome and Apophysitis:

- Warm-up before activity and ice after
- Emphasize flexibility
- Activity modification based on symptoms
- Modalities for pain-relief
- Initially strengthen with M>I, SLR, minisquat, light isotonic progressing to leg press, wall squat, lunges, step-ups and eccentric strengthening

Patellar Osteochondritis dissecans:

- Avoid resisted ROM through chondrosis or pain
- Quad strengthening M>I, SLR, minisquat, short arc progress to leg press, step-up, lunge
- Address malalignment
- Emphasize flexibility