



Exercise #2: Sidelying Hip Raise

- Lay on your side, with head, shoulders, hips and feet in straight line
- Keeping knee straight, lift top leg upward to about 30°
- Slowly lower back down
- **Tips:**
- Bend your bottom leg if you need more stability
- Keep top leg in a straight line with your body; do not allow it to shift forwards or backwards
- Keep toes facing forward
- You should “feel it” on the side of your hip (where her hand is resting)



Exercise #3: “Fire Hydrant”

- Kneel on all fours, with knees & hands directly under hips & shoulders
- Lift right leg up and outward while keeping hip and knee bent to 90°
- **Tips:** Lift only to the height where you can maintain proper position
- Do NOT arch back or rotate torso while lifting leg. All motion occurs at hip



- Place towel under knee for extra cushioning



Complete the specified exercises & number of repetitions based on the week.

	Weeks 1-2	Weeks 3-4
Set 1	Clams (x10 reps), Sidelying Hip Raise(x10)	Clams (x20), Sidelying Hip Raise (x20)
Set 2	Clams (x10 reps), Sidelying Hip Raise (x10)	Clams (x20), Sidelying Hip Raise (x20)
Set 3	Clams (x10 reps), Sidelying Hip Raise (x10)	Clams (x20), Sidelying Hip Raise (x20)
	Weeks 5-6	Weeks 7-8
Set 1	Clams (x20), Sidelying Hip Raise (x20)	Fire Hydrant (x20) Sidelying Hip Raise(20)
Set 2	Fire Hydrant (x15) Sidelying Hip Raise (x20)	Fire Hydrant (x20) Sidelying Hip Raise(20)
Set 3	Fire Hydrant (x15), Sidelying Hip Raise (x20)	Fire Hydrant (x20) Sidelying Hip Raise(x20)

PATELLOFEMORAL PAIN SYNDROME IN THE FEMALE ATHLETE

How to implement a hip strengthening program and prevent Patellofemoral Pain Syndrome

What is Patellofemoral Pain Syndrome (PFPS)?

PFPS is an overuse knee injury characterized by pain on the front of the knee, often experienced during physical activity. A sudden increase in activity intensity may bring on the pain. It is a debilitating injury that can lead to decreased sports participation, re-injury, and osteoarthritis.

Signs and Symptoms

- Increased pain in the front of knee while squatting, jumping, climbing stairs, running, or sitting with knees bent for a long time
- Clicking, catching, “giving way”

If your athlete shows these symptoms, suggest a visit to a physical therapist or primary physician

Who is at risk?

- 1 in 4 athletes will get PFPS
- Basketball athletes are at a higher risk due to repetitive pounding of knee
- Female adolescents are 2 to 10 times more likely to get PFPS

Common Risk Factors

- Decreased hip strength
- Tight leg muscles: iliotibial band, calf muscle, quadriceps or hamstrings
- Collapsing arches/flat feet

Preventing PFPS in female athletes

Recent research suggests that strength deficits in hip muscles actually emerge during puberty, meaning that strength training during adolescence can help with injury prevention.

Hip strengthening will help to:

- Decrease stress on the knee
- Keep knee in a neutral position during physical activity
- Improve overall health & reduce pain in females with PFPS
- Protect against PFPS & other leg injuries such as ACL sprains

A simple set of exercises can be used in young female athletes to reduce the occurrence of PFPS. Ideally, exercises should be included at the beginning or end of practice, to ensure completion of exercises. They can be done at home if needed.

Strengthening program

General Guidelines:

- Complete exercises 3x/week. Follow chart on back for each set
- Keep core tight throughout
- *Slowly* lift and lower the leg; about 2 seconds for the upwards lift and 3 seconds for the lowering

Exercise #1: Clams

- Lay on side, with head, shoulders and hips in straight line
- Bend hips to 45°, knees to 90°
- Keep hips and shoulders stacked directly on top of one another—do not allow them to roll forwards or backwards!
- Slowly rotate top knee upwards while keeping toes together
- Lower to start position
- **Tips:** Lift leg as high as you can go before your hips roll forwards or backwards

