



Standard of Care: Pes Anserine Bursitis

Diagnosis:

Pes anserine bursitis ICD- 9 Code 726.61

The pes anserine bursa lies behind the medial hamstring, which is composed of the tendons of the sartorius, gracilis and semitendinosus (SGT) muscles. Because these 3 tendons splay out on the anterior aspect of the tibia and give the appearance of the foot of a goose, pes anserine bursitis is also known as goosefoot bursitis.¹ These muscles provide for medial stabilization of the knee by acting as a restraint to excessive valgus opening. They also provide a counter-rotary torque function to the knee joint. The pes anserine has an eccentric role during the screw-home mechanism that dampens the effect of excessively forceful lateral rotation that may accompany terminal knee extension.²

Pes anserine bursitis presents as pain, tenderness and swelling over the anteromedial aspect of the knee, 4 to 5 cm below the joint line.³ Pain increases with knee flexion, exercise and/or stair climbing. Inflammation of this bursa is common in overweight, middle-aged women, and may be associated with osteoarthritis of the knee. It also occurs in athletes engaged in activities such as running, basketball, and racquet sports.³

Other risk factors include:¹

- Incorrect training techniques, or changes in terrain and/or distanced run
- Lack of flexibility in hamstring muscles
- Lack of knee extension
- Patellar malalignment

Indications for Treatment:

- Knee Pain
- Knee edema
- Decreased active and /or passive ROM of lower extremities
- Biomechanical dysfunction lower extremities
- Muscle imbalances
- Impaired muscle performance (focal weakness or general conditioning)
- Impaired function

Contraindications:

Patients with active signs/symptoms of infection (fever, chills, prolonged and obvious redness or swelling at hip joint).

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Precautions for Treatment:

- OA-presence of osteophytes must be taken into account when establishing goals and treatment plan
- RA-patient may be at greater risk of infection; cyst formation may appear on radiograph, and the cyst may communicate with bursa
- DM-increased risk of infection
- Refer to modality practice standards for other contraindications and precautions

Examination:**Past Medical History:**

- Previous repetitive strain/overuse injuries involving lower extremities
- Trauma to lower extremities
- Systemic disease process (eg. RA, DM, connective tissue disorders)
- Osteoarthritis

History of Present Illness:

- Location of pain and pain level
- Inciting events or precipitating activities
- Signs/symptoms of infection
- Symptom modifiers (medications, rest, ice)
- Functional limitations

Social History:

- Nature of work-especially noting if patient is at risk due to faulty lower extremity biomechanics or postural strain (prolonged standing)
- Recreational activities-type, frequency/duration, terrain, footwear
- Home environment-stairs, ADL's
- Support system-motivation, ability to follow up with recommendations and physical therapy plan of care

Medications:

- NSAIDS, injection of corticosteroid into bursa

Test results: Review results of any recent lower extremity imaging (radiographs, CT scan, MRI). Prevalence of 2.5% on MRI in symptomatic adults.⁴

Physical Examination:

This section is intended to capture the minimum data set and identify specific circumstance(s) that might require additional tests and measures.

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- **Pain:** typical presentation is pain localized to the anteromedial aspect of the knee, 4 to 5 cm below the joint line, often exacerbated by knee flexion.³
- **Palpation:** tenderness over the affected bursa, with swelling, erythema and warmth
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- **Lower quarter screen:**
 - Active and passive ROM of hip, knee and ankle joints, joint play
 - Patellar mobility and tracking
 - lower extremity manual muscle testing (if condition is chronic, the affected limb may show disuse atrophy and weakness)
- **Tests:**
 - Thomas test, hamstring flexibility, leg length measurement, McMurray's, ligamentous stability tests, Faber and Scour tests
- **Posture:**
 - Note hip posture: IR/ER of hip
 - Note knee posture: varus/valgus, hyperextension, flexion contracture
 - Note foot posture: pes planus/cavus, hallux valgus

Note if any weight-bearing avoidance or intolerance on affected extremity
- **Gait:**
 - Analysis gait during stance and swing phases of cycle
 - Stride length
 - Dynamic standing balance
 - Stair climbing
 - Assistive devices
 - Footwear
- **Sensation**
- **Lower extremity functional scale (LEFS)**

Differential Diagnosis:^{3,4}

- Stress fracture
- Degenerative joint disease
- Meniscal injury
- Collateral ligament injury
- Atypical medial meniscal cysts
- Juxtarticular bone cysts
- Semimembranosus bursitis
- Tibial collateral ligament bursitis
- Saphenous nerve entrapment⁵

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Assessment:

Problem List: likely to include but not limited to:

- Pain
- Decreased ROM
- Decreased muscle strength
- Gait deviations
- Decreased function
- Postural dysfunction/impaired lower extremity biomechanics
- Knowledge deficit: condition, self-management, home program, prevention

Prognosis: Good to excellent with compliance to prescribed medical and rehabilitation management

Goals:

- 1) Decreased pain
- 2) Increased ROM
- 3) Increased muscle strength
- 4) Improved gait quality and efficiency
- 5) Maximize return to pre-injury activities
- 6) Improved lower extremity biomechanics
- 7) Independent self-management of symptoms; independence with home exercise program; independence with prevention of re-injury/re-occurrence

Age Specific Considerations: Pes anserine bursitis can occur at any age, but is common in middle-aged women with knee osteoarthritis. ³ Individuals with associated comorbidities will require more careful goal setting and treatment planning which consider specific factors that maybe influencing the complete recovery of function.

Treatment Planning / Interventions:

Established Pathway ___ Yes, see attached. ~~X~~ No
Established Protocol ___ Yes, see attached. ~~X~~ No

Interventions most commonly used for this case type/diagnosis:

1. NSAIDs
2. Corticosteriod injection
3. Therapeutic exercises to increase lower extremity muscle strength and flexibility, to decrease friction on the bursa and improve joint mechanics

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4. Modalities such as ice, ultrasound and high-voltage electrical stimulation to decrease inflammation and pain
5. Gait training for efficient and effective pattern (consider DME as appropriate)
6. Orthotic consultation
7. Instruction in home exercise program

Frequency & Duration: 1-2x/week for 4-6 weeks

Patient / family education:

1. Home exercise program
2. Sports specific training
3. Pain and edema management

Recommendations and referrals to other providers:

1. Orthopedist
2. Orthotist
3. Rheumatologist
4. Physiatrist
5. PCP

Re-evaluation / assessment

Time Frame: every 30 days and/or prior to visit with physician

Other Possible Triggers for re-evaluation are:

1. Significant change in the signs and symptoms, fall or acute trauma
2. Failure to progress per established short-term goals
3. Complications or worsening of associated conditions

Discharge Planning

Commonly expected outcomes at discharge:

1. Resolution of pain
2. Increased AROM and strength
3. Increased lower extremity muscle flexibility
4. Return to pre-injury function and sports activities

Patient's discharge instructions:

1. Progressed home exercise program
2. Sports specific training
3. Injury prevention

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