



Recommendation 7.2.7:

- In hemophilia patients with hemarthrosis, weight-bearing should be avoided until the symptoms improve to an extent that the patient is comfortable to weight bear without significant pain. **CB**

Recommendation 7.2.8:

- In hemophilia patients, use of opioid analgesia in managing pain should be limited in duration, as much as possible. **CB**

Physical therapy and rehabilitation

- Physical therapy and rehabilitation for the management of patients with hemophilia refers to the use of flexibility and strength training, proprioceptive/sensorimotor retraining, and balance and functional exercises to restore or preserve joint and muscle function.¹⁶
- Thorough assessment of acute joint bleeding followed by physical therapy tailored to the individual's clinical situation is essential to achieve a significant degree of success.¹⁶
- Ideally, physical therapy should be undertaken under adequate factor or hemostatic coverage. If hemostatic coverage is not available, physical therapy should be applied cautiously and exercises should be initiated judiciously.
- It is important to carefully monitor the affected joint throughout physical therapy and assess whether hemostatic treatment is needed to prevent recurrence of bleeding.^{7,17}
- Rehabilitation should include both active and passive range of motion exercises.
- The patient should continue active exercises and proprioceptive training until complete pre-bleed joint range of motion and functioning are restored and signs of acute synovitis have dissipated.¹⁸

Recommendation 7.2.9:

- In hemophilia patients with hemarthrosis, physical therapy exercises performed under clotting factor coverage should begin as soon as the pain symptoms stop. **CB**

Recommendation 7.2.10:

- In hemophilia patients with hemarthrosis, the aim of physical therapy should be to return joint function to the pre-bleed state. **CB**

Arthrocentesis

- Arthrocentesis (removal of blood from a joint) may be considered for patients with hemophilia experiencing prolonged or worsening bleeding symptoms including:
 - tense, painful hemarthrosis that shows no improvement within 24 hours of the initial infusion (this is particularly

the case for bleeding into the hip joint due to the particular anatomy of the hip joint); or

- clinical suspicion of infection/septic arthritis.^{7,19,20}
- Inhibitors should be considered as a possible reason for persistent bleeding despite adequate factor replacement therapy, and the presence of inhibitors should be assessed before arthrocentesis is attempted.
- For hemophilia patients with inhibitors, other appropriate hemostatic agents should be used to provide hemostatic coverage for the procedure, as needed.⁷ (See "Management of bleeding" in Chapter 8: Inhibitors to Clotting Factor.)
- Arthrocentesis should always be done under strictly aseptic conditions to avoid introducing intra-articular infections.
- When necessary, arthrocentesis should only be performed under factor coverage, with factor activity levels of at least 30-50 IU/dL maintained for 48-72 hours. Arthrocentesis should not be done in circumstances where such factor coverage (or equivalent coverage with other hemostatic agents) is not available.²¹
- A large-bore needle, at least 16 gauge, should be used. The joint should be immobilized with mild compression following arthrocentesis, and weight-bearing should be restricted until the remaining blood is absorbed or absence of pain permits mobilization.
- Arthrocentesis should be followed by carefully supervised physical therapy and rehabilitation.
- See also Chapter 10: Musculoskeletal Complications.

Recommendation 7.2.11:

- For hemophilia patients without inhibitors on factor replacement therapy presenting with joint hemorrhage and persistent pain, arthrocentesis is recommended only if there is a tense, painful hemarthrosis or suspicion of infection. Routine arthrocentesis is not advised.
- **REMARK:** In many healthcare settings, arthrocentesis is not common practice because of fear of introducing intra-articular infection. **CB**

7.3 | Central nervous system and intracranial hemorrhage

- All head injuries, confirmed or suspected, significant headaches including headaches lasting for several hours, and somnolence in some instances, must be treated as possible intracranial bleeds. Sudden severe back pain may be a symptom of bleeding around the spinal cord.
- In the event of significant head trauma or clinical suspicion of central nervous system and/or intracranial hemorrhage, immediate treatment with CFC infusion is required without waiting for further symptoms to develop or for laboratory or radiologic evaluation.