Management of acute bleeds in haemophilia patients

All haemophilia patients should be taught in Haemophilia paediatric services how to recognise and manage joint and muscle bleeds. Knowledge will be checked in the transition period between paediatric and adult services using the ‘Ready, steady, go’ scheme. However, if the patient has moved to the area or not suffered a bleed for a while, they may need updated advice and teaching.

If a joint/muscle bleed is suspected, the haemophilia patient is expected to follow our bleeding advice leaflet which is available in our haemophilia folder.

Signs and symptoms of a bleed:

- Warmth around bleed area
- Swelling present
- Decreased range of the joint/nearby joint and the joint held more comfortably in an open pack position (see table below under common bleeds section)
- Painful joint movement

Haemtrack

We expect patients to record their bleeds on updated haemtrack records which are available at [https://apps.mdsas.nhs.uk/haemtrack/Login.aspx](https://apps.mdsas.nhs.uk/haemtrack/Login.aspx). They should record whether the bleed was traumatic or spontaneous, the location and severity of the bleed and what treatment dose they gave themselves to manage the bleed. Ideally this should be recorded in real time.

As a regional centre for Haemophilia care, our haemophilia nurses and physiotherapists check haemtrack daily (Monday-Friday) and we suggest that it is good practice to call patients who have recorded bleeds on their haemtrack records. If any patients on prophylaxis input a bleed we aim to call the patient within the next few days to check they are managing the bleed appropriately.

However, the haemophilia patient is expected to call the haemophilia centre in Oxford if the bleed is significant enough to cause pain, reduced range or they are unsure how to manage their symptoms. Patients who are on demand treatment will need to call the haemophilia centre to be assessed as they won’t be registered on haemtrack and if factor is required, will need to attend the centre.

Ideally we assess the patient at the haemophilia centre so that we can record (via photograph or explanation in the notes) the severity of the bleed and the restriction in the joint. We can also advise more specific management if the patient is assessed in person.
Common bleeds

Ankle bleeds are the most common and usually first joint affected by joint bleeds. Knee bleeds are also relatively common and can be caused by altered foot biomechanics. Elbow bleeds again are associated with deformities and can often include irritation to the surrounding nerves. Supination/pronation may reduce if the radio-ulnar joint is involved. The table below outlines the positions that most haemophilia patients tend to adopt after bleeding into a joint/muscle.

<table>
<thead>
<tr>
<th>Joint/muscle bleeds</th>
<th>Position of comfort following bleed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knee</td>
<td>Flexion</td>
</tr>
<tr>
<td>Elbow</td>
<td>Flexion</td>
</tr>
<tr>
<td>Ankle</td>
<td>Plantar flexion</td>
</tr>
<tr>
<td>Hip (unusual)</td>
<td>Flexion and external rotation</td>
</tr>
<tr>
<td>Shoulder</td>
<td>Adduction with internal rotation</td>
</tr>
<tr>
<td>Wrist and fingers</td>
<td>Wrist flexed and fingers closed/flexed</td>
</tr>
<tr>
<td>Toes</td>
<td>Extension</td>
</tr>
<tr>
<td>Hamstrings</td>
<td>Hip flexion and hip extension</td>
</tr>
<tr>
<td>Biceps brachii</td>
<td>Elbow flexion with shoulder internally rotated</td>
</tr>
<tr>
<td>Gastrocnemius</td>
<td>Ankle plantar-flexed and knee flexed</td>
</tr>
<tr>
<td>Iliopsoas</td>
<td>Hip flexion with some external rotation and increased lumbar lordosis</td>
</tr>
<tr>
<td>Hip extensors</td>
<td>Hip extension</td>
</tr>
<tr>
<td>Quadriceps</td>
<td>Knee extension</td>
</tr>
<tr>
<td>Wrist and finger flexors</td>
<td>Wrist and finger flexion and elbow flexed</td>
</tr>
<tr>
<td>Wrist and finger extensors</td>
<td>Wrist and finger extension and elbow flexed</td>
</tr>
</tbody>
</table>

Danger areas for bleeds

**Head bleeds** – these are regarded as medical emergencies in haemophilia patients and the patient is advised to call the haemophilia centre or go to A&E if the injury is severe. They should also follow head bleeding protocols for the administration of their factor replacement as they should have a specific dose that they are expected to take with head injuries. If possible, the patient should inform the medical team of their haemophilia. Most patients are advised to carry medical alert bracelets/necklaces and **ALL** patients should carry a bleeding disorder information card which states their specific diagnosis, severity and their usual dosages and factor replacement medication. This should look something like the picture here.
**High trauma bleeds** – The patient is expected to call the haemophilia centre or attend their local emergency department and inform the medical team about their haemophilia.

**Compartment syndrome** – Some large bleeds, particularly soft tissue or fractures, may cause sufficient bleeding/swelling in or near a fascial compartment to develop into compartment syndrome. Again, this is deemed a medical emergency and the patient needs to be seen immediately. High risk areas for developing compartment syndrome include muscle bleeds in the calf, lower legs and forearm, but may occur in other areas of the body too.

Signs and symptoms include:

- Severe pain in the affected area
- Muscle tightness and pain associated with passive stretching
- Acute tenderness
- Burning sensation
- Paraesthesia
- Decreased sensation
- Poor capillary refill
- Discolouration
- Decreased/absent pulses distal to the injury
- Inability to contract certain muscles

For other soft tissue injuries, it is suggested that a neural check is completed to ensure adequate neural integrity in the immediate and surrounding area.

**Follow up after acute management of bleeds**

Depending on the severity of the bleed, patients may be brought back in for follow up appointments or sent to local physiotherapy services to help them return the joint to normal. The management is generally as follows;

1. Establish haemostasis
2. Assess the bleed and liaise with the doctors and nurses regarding follow up appropriate factor replacement and safe pain relieving medications.
3. Manage pain, swelling management and weight bearing limitations in the acute phase.
4. Aim to regain passive ROM and progress weight bearing through the affected joint
5. Once passive range is regained, consider shifting focus onto strengthening and ensuring adequate muscle length of nearby muscles
6. Later stage rehab may include progressing the patient back to loaded activity, plyometric, agility and sports specific exercise if appropriate.
For more detailed information, please read ‘information pack’ in the haemophilia document folder.

References

Physiotherapy information pack (updated 2013. Produced by the Haemophilia Chartered Physiotherapists Association.
