Occupational Therapy
Catalogue of Orthoses
Contents

Cervical Orthoses 4
   Halo vest 4
   Cervico-thoracic custom formed orthosis 4
   Temporary custom made helmet 4
Cervical Collars 5
   Rigid dolls collar 5
   Semi-rigid collars 5
   Wire frame collars: 6
   Cervical Collars: off-the-shelf 6
   Soft collars: under chin 7
   Rigid collars: under chin 7
Spinal Bracing 8
   Lumbar spinal brace 8
   Thoraco lumbar spinal orthosis 8
   Other types of custom formed spinal orthoses 9
Spinal Thigh Orthosis 9
Hip Orthoses following Hip Dislocation 10
Child’s Rigid Hip Spica 10
Long Bone Fracture Bracing 11
   Humeral bracing 11
   Ulnar bracing 11
   Tibial bracing 11
Knee Bracing 12
Ankle and foot splints 13
   Foot drop splints 13
   Dynamic foot drop orthosis 14
   Ankle supports: off-the-shelf 14
   Cast boots 14
   Toe: custom formed 15
Shoulder Orthoses 15
Elbow 16
   Hinged elbow brace 16
   Elbow supports 16
Mitts/Elbow Restrictors 17
Hand Orthoses 17
   Hand resting splint 17
   Neurological hand splinting 17
   Sugar tong splint 18
Flexor Tendon Injuries 18

Occupational Therapy Orthotics 2
<table>
<thead>
<tr>
<th>Extensor Tendon Injuries</th>
<th>19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zones 1 and 2 - with or without fracture (mallet finger splint)</td>
<td>19</td>
</tr>
<tr>
<td>Zone 3 (PIP Joint)</td>
<td>19</td>
</tr>
<tr>
<td>Zone 4 to 7 extensor tendon injuries</td>
<td>19</td>
</tr>
<tr>
<td>Thumb EPL repair zones 1 and 2</td>
<td>19</td>
</tr>
<tr>
<td>Wrist/Thumb Splints</td>
<td>20</td>
</tr>
<tr>
<td>custom made</td>
<td>19</td>
</tr>
<tr>
<td>Fabric and neoprene</td>
<td>20</td>
</tr>
<tr>
<td>Thumb web spacer</td>
<td>21</td>
</tr>
<tr>
<td>Finger splints</td>
<td>21</td>
</tr>
<tr>
<td>Dupuytrens splint</td>
<td>21</td>
</tr>
<tr>
<td>Dynamic and static progressive finger splints</td>
<td>22</td>
</tr>
<tr>
<td>Finger splints: silicone sleeved</td>
<td>22</td>
</tr>
<tr>
<td>Nerve Injuries</td>
<td>22</td>
</tr>
<tr>
<td>Ulnar nerve splints</td>
<td>22</td>
</tr>
<tr>
<td>Radial nerve splints: dynamic</td>
<td>23</td>
</tr>
<tr>
<td>Dynamic and Static Splints</td>
<td>23</td>
</tr>
<tr>
<td>Carpal Tunnel: wrist silicone gel sleeve</td>
<td>23</td>
</tr>
<tr>
<td>Pressure Garments: made to measure</td>
<td>24</td>
</tr>
<tr>
<td>Acknowledgments</td>
<td>25</td>
</tr>
</tbody>
</table>
Cervical Orthoses

Halo vest

Suggested main use:
Stable high cervical spine fractures (C2).

Bremer halo vest system.

Cervico-thoracic custom formed orthosis

Suggested main use:
High thoracic spine fractures or conditions.

Temporary Custom Made Helmet
For skull protection, post craniotomy and epilepsy whilst awaiting permanent helmet.
Cervical Collars

Rigid dolls collar

Use:-
Selected cervical fractures/dislocations.
Following cervical surgery for RA/oncology patients.
Cervical decompression/laminectomy.
Burns contracture management.
Irregular shaped necks and MND patients, where off-the-shelf collars are not suitable.

Semi-rigid collars

Use:-
RA patients, including atlanto-axial instability.
Various designs may be produced such as front fastening collars for patients with restricted shoulder movements.
MND patients, may be used to support head preventing fatigue and/or reduce neck flexion contractures.

Philadelphia Collar.

Custom moulded plastazote Collar
Wire frame collars

Use:--
Rheumatoid Arthritis.
Burns injuries.
MND.
Contractures.

Wire frame collars provide a high degree of ventilation and may be useful for claustrophobia.

Headmaster Collar                                           Dalziel wire framed collar

Cervical Collars: off-the-shelf

Use:--
Suitable for emergency transport. Certain off-the-shelf collars are more statistically restrictive than others. A Vertebrate collar may be used as a shower collar following cervical internal fixation.

Aspen collar.                                                                                    Vertebrate collar.
Soft collars: under chin

A wide range of sizes are available.

The collar shown (left) allows a patient with restrictive shoulder movements to apply the collar.

Cowley collar. Halton collar.

Rigid collars: under chin
Spinal Bracing

**Thoraco-lumbar spinal orthosis (TLSO)**

*Use:*  
Custom formed. Provides total circumferential support for conservative management of stable spinal injuries, following internal fixation or removal of spinal tumours etc.  
May provide pain relief and increase mobility.  

The TLSO may be single wrap around, shell type as shown, or over the shoulder type, depending on body shape and level of injury.

**Lumbar spinal brace**

*Use:*  
Custom formed. Provides total circumferential support for Conservative management of spinal injuries and following internal fixation.  
May provide pain relief and increase mobility.  

The brace may be single wrap around as shown, or shell-type depending on body shape and level of injury.

**Lumbar corsets: off-the-shelf**

*Use:*  
May be effective in control of muscular pain and provide musculocutaneous postural stimulation.  
Corsets can be modified to accommodate different body shapes. The corsets may have a custom formed spinal panel insert.
Other types of custom formed spinal orthoses

Orthoses may be used for interim support in combination with wheelchair seating.

Any shape or size may be accommodated with the method used.

Over-the-shoulder cervicothoracic

Spinal Thigh Orthosis

Use:-
To help determine suitability of patients for selected lower back surgery - pain relief when wearing orthosis can indicate that surgery would be beneficial. The design incorporates a drop-lock hip hinge, which may be fixed in extension or free to allow toileting.
Hip Orthoses following Hip Dislocation

Use:-
For patients following multiple hip dislocations or where the hip is deemed unstable. Brace to be worn continually for a minimum of 3 months post dislocation. Hip hinge can be restricted to allow a specified range of movement – this should be highlighted on the operation sheet.

Child’s Rigid Hip Spica
Can be provided in certain cases where a removable hip spica is required.
Long Bone Fracture Bracing

**Humeral bracing**

*Indications for Humeral bracing*
Closed diaphyseal fractures without marked distraction between fragments.
Open fractures without significant soft tissue damage.
Closed fractures associated with initial radial nerve palsy similar to those described above.

**Ulnar bracing**

*Indications for Ulnar Bracing*
Isolated diaphyseal fractures with no displacement between fragments. Type I and II open fractures that meet the criteria described above. Bilateral closed isolated ulna fractures in patients who have not experienced polytrauma.

**Tibial bracing**

*Indications for tibial bracing:*
Following application and reduction in initial plaster cast (knee in slight flexion):
- Selected tibial diaphyseal fractures (particularly low energy) with an associated fibula fracture: 10mm or less of shortening and/or angulations of <5 to 8° well aligned and/or including grade 1 open fractures.
- Low energy closed transverse fractures that are either not displaced or have been reduced and made axially stable.
- Low energy closed segmental fractures with minimal displacement between the fragments.
Knee Bracing

Hinged Knee Brace

Indications for Use
Fractures of the tibial plateau with displacement 3mm or less
Distal femoral fractures following ORIF.
Following rupture of Quadriceps and/or repair.
Ligament ruptures of the knee.
Patellar fractures.

Hinges can be left free or adjusted to allow specified range

Knee Supports

Custom formed cylindrical and half-cylindrical orthoses.

Knee Supports- off the shelf

Patellar stabilising support  Neoprene knee immobiliser

Occupational Therapy Orthotics
Ankle and foot splints
Ankle/Foot orthoses

Use:-
To maintain foot in neutral position or provide serial stretching of contractures.

Note:
Low temperature orthoses are not suitable for long-term use. For short-term use a splint may be reinforced, providing weight bearing for around 6-weeks.

Anti-rotational bars may be incorporated.

Off-the-shelf Dorsiwedge type

Soft Cast Circular Casting type with heel elevator
**Dynamic foot drop orthosis**

This orthosis can be used for patients with mild to moderate foot drop.

**Ankle supports: off-the-shelf**

Ankle stirrup for lateral stability

Neoprene ankle support

**Cast Boot**

Can be fitted in conjunction with foot splints and foot plates.
Toe: custom formed

Anti- halluc valgus splint – for night use.

Shoulder Orthoses

Sling for over 30 degrees shoulder abduction.

External Rotation Brace.

Add hoc shoulder orthoses may be designed.

Sling for 45 degrees of shoulder abduction
Elbow

**Hinged elbow brace**

**Use:**

Dislocations and elbow injuries, which may need restricted range of movement.

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**Elbow supports**

*Image 362x294 to 545x426*

*Image 50x296 to 227x426*

*Image 377x581 to 542x703*

*Image 50x119 to 215x209*

**Off-the-shelf elbow brace** – for restriction in movement where less support is required.

**Neoprene elbow sleeve**

**Long ‘Sugar tong’ splint**
Mitts/Elbow Restrictors

Mitts and elbow splints may be provided to prevent patients from pulling intubations out or harming themselves.

Hand Orthoses

Hand resting splint

Use:--
To maintain maximum extension of collateral ligaments of the MCP, IP and DIP joints.
Wrist positioned in approx 20-30 degrees of extension, MCPs in approx 70 degrees of flexion, IP and DIPs in full extension.

Neurological hand splinting

The various types of splints below may be used to assist in various types of Neurological Conditions
**Upper limb splinting**

**Principle Indications**
- Distal radial fractures.
- Inflammatory arthritis.
- Degenerative osteoarthritis.

**Flexor Tendon Injuries**

Various protective splints used in the treatment of flexor tendon injuries of the hand, thumb and wrist.
For complex combined flexor/extensor injuries position to be determined by referring Doctor.
Extensor Tendon Injuries

Zones 1 and 2 - with or without fracture (mallet finger splint)

Zone 3 (PIP Joint)
Splint worn for 6 weeks.

Zone 4 to 7 extensor tendon injuries
Wrist/Thumb Splints

Custom moulded splints with and without thumb

**Fabric wrist/thumb splints: custom made and off-the-shelf**

Various fabric and neoprene splints are available for wrist and thumb protection.

Ulnar collateral splints

CMC joint OA Splints
Thumb web space stretcher splint to prevent or correct contracture of the first web space.

**Finger splints**

**Dupuytrens splint**

Application at 2-3 days: -
Static volar splint - MCPs and IP joints placed in optimum extension.

When sutures removed, splint worn overnight for 3-6 months. Silicone gel may be provided to help reduce scaring. The volar splint may be used for fractures and to reduce flexion contractures.
Dynamic and static progressive finger splints

Various types of static stretch splints available:

Finger splints: silicone sleeved
Helps to reduce scarring, moisturizes and protects sensitive scarring.

Nerve Injuries

Ulnar nerve splints
Radial nerve splints: dynamic

Dynamic and Static Splints: (joint replacements)

Carpal Tunnel: wrist silicone gel sleeve

Helps in daily living activities to reduce scar sensitivity following carpal tunnel release.

Occupational Therapy Orthotics
Pressure Garments: made to measure

Pressure garments may be used for burns, scar management and oedema management.
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