

 <p>Winnipeg Regional Health Authority Office régional de la santé de Winnipeg Caring for Health À l'écoute de notre santé</p> <p><b>Operational Directives</b></p>	<p><b>WRHA Infection Prevention and Control and Occupational and Environmental Safety &amp; Health</b></p>		
	<p><b>Upper Extremity Supportive Devices</b></p>		<p><b>Page 1 of 7</b></p>
	<p><b>Approval Signature:</b></p>  	<p><b>Supersedes: New</b></p>	
	<p><b>Date of Approval:</b> March 20, 2008</p> <p><b>Review Date:</b> March 2010</p>		

**1. Purpose:**

- 1.1 To minimize Occupational and Environmental Safety & Health (OESH) & Infection Prevention and Control (IP&C) issues related to the use of prescription and/or non-prescription upper extremity supportive devices in the workplace.
- 1.2 To minimize the transmission of microorganisms and the musculoskeletal risks associated with these devices.

**2. Definitions:**

- 2.1 Facility-Approved Disinfectant:  
A disinfectant cleaner that has been approved by the facility or organization.
- 2.2 Health Care Provider: This includes Physicians, Occupational Therapists, Physiotherapists and Chiropractors and other individuals who are approved by Human Resources for prescribing these devices.
- 2.3 Non-prescription Device: Hand and wrist device worn by a health care worker in the workplace which has not been prescribed by a Health Care Provider.
- 2.4 Prescription Device: Hand and wrist device worn by a health care worker in the workplace which has been prescribed by a Health Care Provider.
- 2.5 Staff: All persons employed by the WRHA facilities, or WRHA funded facilities, as well as members of the medical staff, volunteers, board members, students and others associated through contracts.
  - 2.5.1 Level 1: All direct care staff who work within the Winnipeg Health Region including but not limited to Physicians, Nurses, Allied Health Care Providers (Occupational Therapy, Respiratory Therapy, Physiotherapy, Speech Language Pathologist, Dietitians, Pharmacy, Lab, EKG, Diagnostic Imaging, etc.), Support Services (Health Care Aides, Home Support Workers, Housekeeping, Porters, Transfer personnel and others as deemed appropriate by each site/area/program).

- 2.5.2 Level 2: All staff who work within the Winnipeg Health Region who have contact with patients/residents/clients without providing direct care including, but not limited to volunteers, health records, patient registration, unit clerk, Laboratory workers and others as deemed appropriate by each site/area/program.
- 2.5.3 Level 2A: All staff employed in corporate sites/areas and do not have direct daily contact with patients/residents/clients.
- 2.6 Upper Extremity Supportive Device: This would include prescription and/or non-prescription wraps, splints, braces, casts, common orthotic devices, and compression devices worn on the hands and wrists.

### **3. Operational Directives:**

- 3.1 All staff presenting to work with an upper extremity supportive device shall be evaluated by their manager/designate for OESH and IP&C issues according to the Upper Extremity Supportive Devices Algorithm (Appendix A).
- 3.2 All non-prescription upper extremity supportive devices shall not be used by Level 1 Staff while in the workplace.
- 3.3 All Level 1 Staff who are required to wear a prescription upper extremity supportive device at work shall provide documentation from their Health Care Provider to their facility/program supervisor stating they are required to wear the device at work and the expected time frame of use.
- 3.4 Level 1 Staff who are required to wear a prescription upper extremity supportive device at work shall follow the OESH and IP&C Guidelines for hand hygiene, barriers if indicated, and cleaning of the device. See Cleaning Instructions for Upper Extremity Supportive Devices Materials (Appendix B).
- 3.5 All Level 2 and 2A Staff who have direct contact with patient/resident/client, shall provide documentation according to 3.3.

### **4. Procedure:**

- 4.1 When a staff member arrives at work wearing an upper extremity supportive device the manager/designate shall:
- 4.1.1 Follow processes outlined in algorithm/procedure in Upper Extremity Supportive Devices Algorithm (Appendix A).
- Provide Information Sheet on Upper Extremity Supportive Devices (Appendix C).
- 4.1.2 If staff member has non-prescribed device:
- Request a prescription be obtained from a Health Care Provider for use at work including specific guidelines and estimated timelines.
- 4.2 If the prescribed device interferes with hand hygiene:
- 4.2.1 The Manager/Designate:
- Performs an assessment of the type of work the staff is performing to determine if work modification is possible.
  - Determine if gloves can be used as a barrier device. If gloves can be used, determine the type of glove needed to ensure the device is covered. The glove must be large and durable enough to withstand tearing while the glove is being used.
  - If assistance is required with this assessment, consult OESH/designate and/or IP&C/designate.

- Re-evaluate the overall situation close to the identified time outlined by the Health Care Provider in consultation with OESH/designate.

4.3 Cleaning of the device:

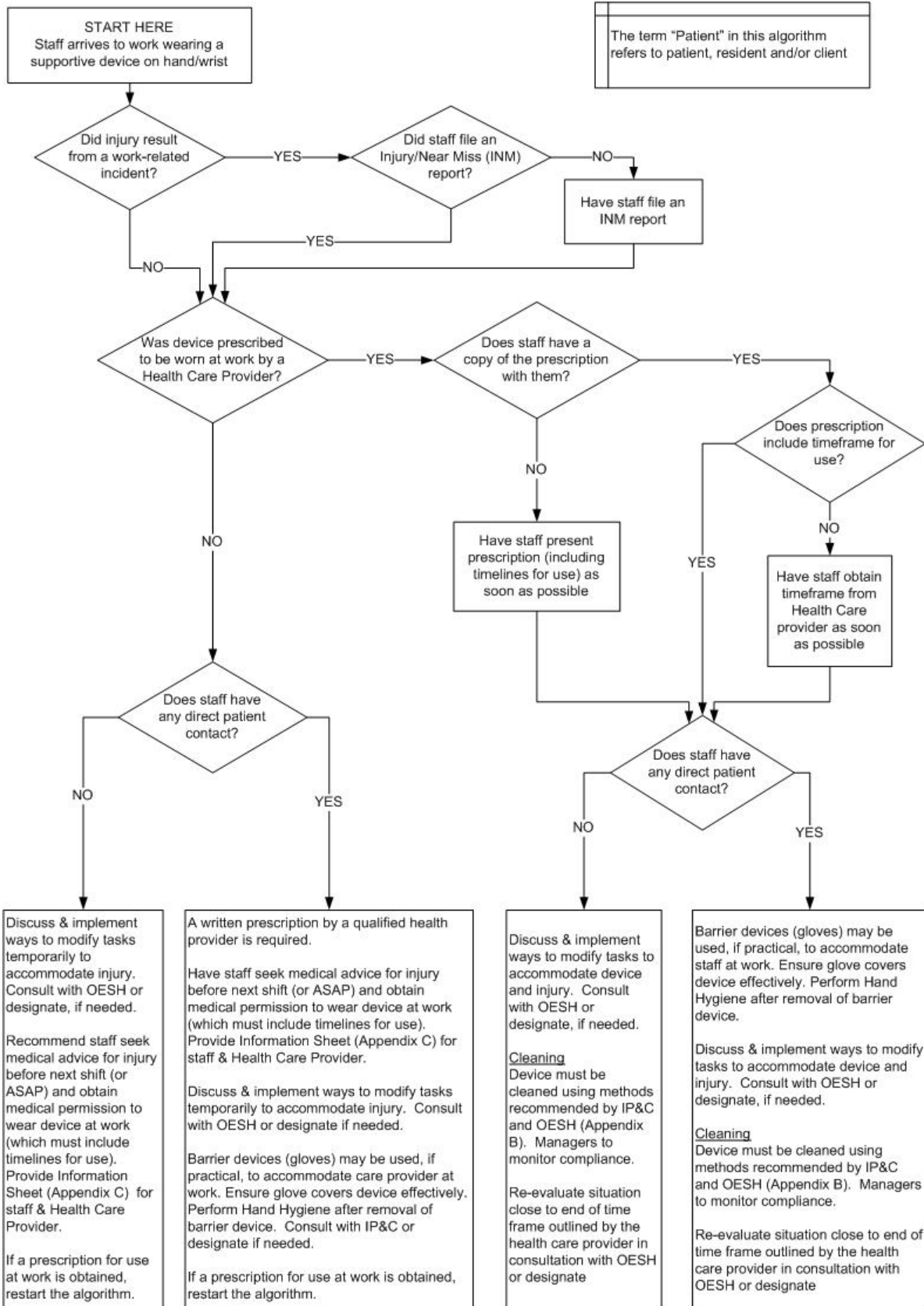
- 4.3.1 The employee shall comply with cleaning recommendations as outlined in Cleaning Instructions for Upper Extremity Supportive Devices Materials (Appendix B). The manager/designate shall monitor and take appropriate action as required.
- 4.3.2 If cleaning becomes an issue, reassessment should be done by OESH/designate and/or IP&C/designate.

## 5. References:

- 5.1 Alberta Human Resources and Employment (2004). *Wrist splints and MSIs*. Workplace Safety & Health Bulletin, ERG025.  
<http://www3.gov.ab.ca/hre/whs/publications/pdf/erg025.pdf> Originally accessed on April 5, 2006.
- 5.2 Peate, W.F., & Lunda, K.A. (1997). *Cumulative trauma disorders: A practical guide to prevention and control*. Government Institutes, Maryland.
- 5.3 Sailer, S.M., & Lewis, S.B. (1995). *Rehabilitation and splinting of common upper extremity injuries in athletes*. Clinics in Sports Medicine, 14(2), 411-446.
- 5.4 Winnipeg Regional Health Authority (2006). Infection Prevention and Control Manual.  
<http://home.wrha.mb.ca/prog/ipc/manual.php> Originally accessed on March 12, 2008.
- 5.5 Winnipeg Regional Health Authority Routine Practices Policy. Policy Number 90.00.060.  
[http://home.wrha.mb.ca/corp/policy/files/90.00.060\\_RoutinePractices\\_Dec07.pdf](http://home.wrha.mb.ca/corp/policy/files/90.00.060_RoutinePractices_Dec07.pdf) Originally accessed on March 12, 2008.
- 5.6 Workers' Compensation Board of British Columbia (1996). *Non-prescribed wrist braces may not prevent hand and arm injuries at work*. Ergonomics Commentary Number 2.  
<http://www.worksafebc.com/publications/healthandsafetyinformation/bytopic/assets/pdf/wristbraces.pdf> Originally accessed on April 5, 2006.



Upper Extremity Supportive Devices Algorithm for Managers



### Cleaning Instruction for Upper Extremity Supportive Devices

Any upper extremity supportive device used in the workplace can be an Infection Prevention and Control (IP&C) concern if this device interferes with hand hygiene or has contact with patient/client/resident. Cleaning of these devices must be performed at minimum once per day and when visibly soiled, according to manufacturer's cleaning instructions. If these are not available, we have provided the following cleaning instructions for materials commonly used in the manufacturer of these items. These guidelines were developed in consultation with Anderson House, Diamond Athletics Medical Supplies, HSC Occupational Therapy Department and Pan Am Clinic Cast Department. If possible, have an extra device for use to ensure cleaning can be done daily. If it is not possible to have an additional device (custom made, etc.), special arrangements would have to be made.

#### Plastic

From a cleaning perspective, this is an ideal material for use in the workplace. It will not absorb liquids and can be cleaned with facility-approved disinfectant. Plastic devices with holes, e.g. perforated splinting materials are very difficult clean. Whenever possible, other materials should be considered first. However, the straps may be made of an absorbent fabric that will tend to stay wet. (see fabric)

#### Leather

Some devices are made with, or covered with leather. Repeated washing or spraying with water can damage this material. Leather will absorb liquids, and does not dry readily. It is best cleaned with leather cleaner or saddle soap.

#### Foam

Open cell foam: This will absorb liquids and has many open cells that can be infiltrated by germs and will be hard to clean. It should be cleaned with water and soap, will be slow to dry.

Closed cell foam: Dense foam will not absorb liquids, but can be soiled. This can be cleaned with disinfectant spray and water. It must be secured with straps. (Fabric)

#### Fabric

Fabric covered orthotic devices are common. The fabric will absorb fluids and can be infiltrated by germs and become difficult to clean. Typically, fabrics are washed with water and mild soap, and then are hung to dry.

Straps: Fabric straps will absorb some liquids and Velcro® straps do not perform well when they are wet. These straps can be cleaned with water and soap and/or sprayed with disinfectant, but they will stay wet, which is a good environment for microscopic growth. They must be allowed to air dry completely before reuse.

Replace fabric and straps if become soiled and unable to be cleaned.

#### Plastic & Fiberglass Casting Material

Keep dry. There is no product on the market designed to clean the outside surface of these casts.

#### Gortex Lined Casts

These casts are waterproof and can be scrubbed with soap and water.

If you have further questions, please discuss with Occupational and Environmental Safety & Health (OESH) designate and/or Infection Prevention and Control (IP&C)/designate.

### Information Sheet on Upper Extremity Supportive Devices

This overview provides information about the potential risks associated with wearing a brace, splint or wrap on the hand or wrist in the Health Care Environment, especially in overuse or chronic injury situations. Any upper extremity supportive device worn by staff at work should be prescribed by a physician or qualified health care provider, as these risks are factored into the decision to use these devices as a method of treatment. The prescription must outline specific guidelines & an estimated timeline for the use of the device while at work. Consideration should also be given to Infection Prevention and Control (IP&C) risks that are presented by wearing any upper extremity device, especially among staff with direct patient/resident/client contact.

**Decreased Muscle Strength** When a joint is immobilized, the surrounding muscles will become weaker (muscle strength decreases by about 10% every week when immobilized). When the supportive device is removed, the joint will be more prone to injury temporarily.

**Decreased Joint Mobility** Wearing a supportive device for an extended period (four weeks) is likely to reduce the joint's range of motion. The joint will be at an increased risk of injury when the device is removed due to the lack of mobility and a decreased blood flow in the tissues.

**Hazardous Compensatory Movements** When a supportive device limits a joint's mobility, the surrounding joints and tissues may be subjected to increased stress and range of motion while compensating for the immobile joint. This may lead to similar overuse problems in these joints and tissues. It would be more appropriate to modify the task, wherever possible, to protect an injured joint instead of just using a supportive device.

**May Prolong Injury Recovery** Current literature indicates non-prescribed supportive devices do not prevent injury and may actually increase the severity of symptoms. There is evidence that wearing a supportive device for an overuse injury, even if prescribed, can actually prolong symptoms and delay recovery. Because many of the structures around the wrist and hand are superficial (i.e. very little soft tissue protection), a supportive device can cause friction or pressure irritation to the injured area. This is mostly prevalent with generic, off the shelf devices, as they do not have the proper fit of a custom brace made by a professional.

**Infection Prevention and Control Practices** Wearing an upper extremity supportive device interferes with routine hand hygiene, increasing the risk of infection exposure for employees, patients, residents and clients. As with any equipment used in direct care, a supportive device should be cleaned between contacts with individual patients, residents and clients. This may not be possible given the different materials used in these devices and the schedules of most direct care providers. Again, it may be more appropriate to modify the task or technique to protect a symptomatic joint instead of using a supportive device. This will help reduce the risk of injury or illness for our employees, patients, residents and clients.

#### References

Alberta Human Resources and Employment (2004). *Wrist splints and MSIs*. Workplace Safety & Health Bulletin, ERG025.

<http://www3.gov.ab.ca/hre/whs/publications/pdf/erg025.pdf> Originally accessed on April 5, 2006

Peate, W.F., & Lunda, K.A. (1997). *Cumulative trauma disorders: A practical guide to prevention and control*. Government Institutes, Maryland.

Sailer, S.M., & Lewis, S.B. (1995). *Rehabilitation and splinting of common upper extremity injuries in athletes*. Clinics in Sports Medicine, 14(2), 411-446.

Winnipeg Regional Health Authority (2006). Infection Prevention & Control Manual

Workers' Compensation Board of British Columbia (1996). *Non-prescribed wrist braces may not prevent hand and arm injuries at work*. Ergonomics Commentary Number 2.

<http://www.worksafebc.com/publications/healthandsafetyinformation/bytopic/assets/pdf/wristbraces.pdf> Originally accessed on April 5, 2006.