Individualized School Plan for Optimal Inclusion of Students with Osteogenesis Imperfecta (OI)
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OVERVIEW OF INDIVIDUALIZED SCHOOL PLAN

What is Osteogenesis Imperfecta?

Osteogenesis Imperfecta (OI), also known as the brittle bone disorder, is a genetic disorder of the collagen that causes the bones to be more fragile. This rare disorder is characterized by an increased risk of bone fractures, bone deformities, and ligament laxity. Therefore, it is important to provide students with OI necessary accommodations.

OI is categorized in different types, ranging from very mild to severe. The specific medical problems a student develops depend on the severity type. The characteristic features of OI vary greatly from person to person, even among people with the same type of OI. Hence, it is important to follow an individualized care plan to address the student’s needs.

Who is this care plan for?

This individualized care plan is developed for students with OI, ranging from kindergarten to the last year of high school. This plan is to be used by school personnel (e.g., teachers, school nurse and support staff) in collaboration with the student, their parents, and healthcare professionals.

What is included in this care plan?

This plan includes safety recommendations and precautions for use in the classrooms, hallways, bathrooms, physical education courses, schoolyards and field trips. This plan also includes the protocols for emergency response situations and suspected bone fractures.

If you have any further questions regarding the recommendations and protocols listed in this document, do not hesitate to contact:

Name: 
Relationship with student: 
Email:  
Phone number: 

Inclusivity

In all situations, inclusion with classmates is key for psychosocial wellbeing and self-esteem. We strongly recommend that the student be included as much as possible in all school activities. Their integration and participation are important for their self-worth and development and if these recommendations and precautions are followed, they can interact and contribute to the fabric of school life just as any of their peers.

It is important to keep in mind that students with OI do not present with cognitive deficits. This is crucial in fostering a healthy and inclusive environment for these students.

Listen to the student, as they know themselves better than anyone, and engage them in discussions about their needs, concerns, strengths and limitations. Additionally, a child with OI may be of smaller stature than their peers. This is a physical attribute of OI. It is important to be mindful of this attribute to address and engage with the child in an age-appropriate manner and not by their physical stature.
MEDICAL HISTORY

Name of student: ____________________________

Date of birth: ___________ Grade: ________________

Type of Osteogenesis Imperfecta (OI): □ Mild □ Moderate □ Severe

**Brief history of fractures and commonly fractured bones:**

Location of rodded bones:

Student’s ability to recognize and respond to physical injury:
**Identification Card**

☐ It is recommended to have an identification card of the student mentioning their condition, posted in the classroom. Please discuss this option with the student before checking this box. An example is included in the Appendix 1.

**Other information:**

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**EMERGENCY CONTACT INFORMATION**

<table>
<thead>
<tr>
<th></th>
<th>Name</th>
<th>Relationship</th>
<th>Preferred phone #</th>
<th>Alternate phone #</th>
</tr>
</thead>
<tbody>
<tr>
<td>1&lt;sup&gt;st&lt;/sup&gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2&lt;sup&gt;nd&lt;/sup&gt;</td>
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<tr>
<td>3&lt;sup&gt;rd&lt;/sup&gt;</td>
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</tr>
</tbody>
</table>

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**FRACTURE RESPONSE PLAN**

In case of an actual or suspected bone fracture

- Consult with the student first. They know their body best.
- Allow the student to communicate their needs to the personnel.
Call 911/Emergency Medical Services if:
- Open fracture or fracture with deformity
- Loss of consciousness
- Disorientation
- Very severe pain
- Suspected fracture to the spine. Warning signs include:
  - Back or neck pain
  - Decreased sensation in hands and feet
  - Decreased movement of limbs
  - Unable to reach the emergency contact(s)

Actions to take until Emergency Medical Services arrive:
- Do not move the student. If the student is in an unsafe environment, move them slowly and carefully, being careful to support the injured limb and moving it as little as possible.
- Ensure the student is comfortable and in a safe environment
- Have an adult stay with the student
- Do not give them any food or drink because may interfere with anesthesia if the student requires surgery
- Comfort other students and adults. They may be upset over the student’s injury. The situation will be much easier if everyone remains calm and avoids panic.
- Once the Emergency Medical Services has arrived. It may be pertinent to call the Osteogenesis Imperfecta Foundation (1-800-981-2663) or (please specify) in order to explain this rare condition to others if the parents do not arrive soon enough.

Name of preferred hospital emergency room:

Phone number of preferred emergency room:

Address of preferred hospital emergency room:

Call the emergency contact on page 6
☐ This student has a Splint Kit at school. (See Appendix 2 for a list of suggested items)
☐ The Splint Kit is located:

(Specify location of the Splint Kit)
Staff members trained to perform immobilizations are:

The student has medication that can be given in case of a fracture.

Medication: _____________________________________________
Dose: __________________________________________________
Location: _______________________________________________

**MOBILITY AND ENVIRONMENTAL CONSIDERATIONS**

The table below describes the mobility of the student in usual circumstances. The student’s condition may change due to the presence of pain, fatigue, or recovery from a fracture or surgery. Modifications may be needed if their level of mobility changes.

It is important to assess weather conditions, which may require additional assistance (e.g., snow, or icy surface)

<table>
<thead>
<tr>
<th>Mobility Location</th>
<th>Walks without walking aid</th>
<th>Walks with walking aid (specify: walker, cane, etc.)</th>
<th>Mobilizes independently with wheelchair</th>
<th>Uses wheelchair with adult assistance* (specify)</th>
<th>Uses an adapted bike</th>
<th>Requires adult supervision**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classroom</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hallways</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outdoors/ school yard</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stairs</td>
<td></td>
<td>Uses stairs independently</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>No adult supervision required, hand railing should be used for safety</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Under adult supervision, hand railing should be used for safety</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Unable to use the stairs. Requires ramp or elevator.</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td>Requires use of a ramp or elevator.</td>
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<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td>An adaptation to the classroom may be required such as putting the student’s classroom on the main floor.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Supervision: The adult is to observe the student perform the task. Only offer help if the student asks for assistance.
**Assistance: The adult is to provide help with the task that the student is performing. Ask the student how they want you to help them.
☐ Student must wear braces when standing/walking. Specify:

☐ Student has a standing frame that could be used at school daily for a duration of approximately _______ minutes.
☐ Allow the student to leave and enter class a few minutes before their classmates to avoid crowded hallways and stairs.
☐ The student needs space for mobility for rehabilitative purpose (e.g. to practice an impacted skill after a fracture during lunchtime). Please designate an area for this practice.

Additional Comments:

WHEELCHAIR TRANSFERS

☐ Not applicable for student

<table>
<thead>
<tr>
<th>Level of assistance</th>
<th>Independent (specify: sliding, standing, uses footrest)</th>
<th>Requires assistance (specify)</th>
<th>Dependent Student needs specific plan from occupational therapist</th>
<th>Equipment needed (specify: transfer board, walking aid, mechanical lift, etc.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheelchair ↔ chair</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chair ↔ floor</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Additional Comments:
TOILETING

Transfer to toilet
□ Independent - able to transfer to toilet seat independently/safely
□ Able to transfer to toilet seat with assistance. Specify:

Toileting transfer
□ Occupational Therapist (OT) assessment of toileting facilities at school is recommended. This assessment may include suggestions for:
   • installing a change table to help with toileting when the student is unable to transfer on their own
   • using a reducer ring to help the student properly sit on the toilet.
□ Refer to OT assessment as needed

Personal Hygiene
□ Completes hygiene independently
□ Completes hygiene with assistance. Specify:

Clothing Assistance for Toileting
□ Independent - able to manage clothing for toileting
□ Able to manage clothing for toileting with assistance. Specify (e.g. fasteners, standby assistance):

Additional Comments:
Physical Education Classes

Physical activity is strongly encouraged, as it strengthens muscles and bones in individuals with OI. The muscles that cross the hip joint can become short and stiff when sitting for long periods of time, especially for those students in wheelchairs. However, certain precautions must be considered to ensure optimal safety of this student. Important guidelines include:

**Recommendations for Inclusion:**

- Participation in most non-contact sport is encouraged (e.g. badminton, archery, or tennis). Special considerations may be needed for contact sports.

- As much as possible, activities should be modified such that the student is able to participate with their entire class. In case this is not possible, the class may be split up in small groups permitting the student to participate in a similar activity with a smaller group of students. If the activity involve many students (e.g. soccer, volleyball, or basketball), the student may:
  - perform the same activity with a small group; or
  - practice the skills associated with the activity (e.g. kicking a ball, dribbling and passing a ball, or shooting baskets). This would reduce the risk of falling or bumping into other students while participating in the activities.

- If the student is unable to perform an action, encourage them to suggest an alternative. In addition, the student’s parents may be consulted for suggestions.

- Skills acquired from all sports should be learnt and student can help with refereeing or scoring during contact activities. Never allow the student to sit alone on the sideline.

- Generalized pain and fatigue are common in individuals with OI. Allow the student to rest if tired or experiencing aches or pains. The student knows their body best. Please listen to the student to help avoid an injury; however, the student should also be encouraged to participate in the group activity as much as physically possible.

- Swimming and playing in the water are ideal activities for the student. The water allows independent movement with little risk of fracture or injury. Please encourage the use of the pool at school when possible.

- For younger students, an imposition of a break, time out or a calmer activity would be recommended until the physical educator is familiar with the student.

- Keep track of potential considerations (Appendix 3)

**Adaptations Suggested**

- Offer supervision if the student is at risk of falling during an activity (e.g. use of monkey bars or gym equipment)

- Promote cardiovascular activities such as running, skipping or jogging, and the use of stationary bike or rowing machine.

- Use lightweight equipment (e.g. use of foam balls, light dumbbells and beanbags)

- Wear and tie properly fitted shoes

- Offer 1 on 1 supervision
- Use an adapted bike
- Use student’s sports wheelchair and/or outdoor adapted equipment
- Encourage time out of wheelchair when possible, such as using a walker
- Promote floor stretching or yoga.
Things to Avoid

- Trampolines
- Physical education equipment scattered on the floor
- Repetitive high intensity activities (e.g. sprinting amongst groups and jumping from heights)
- Sit-ups due to risk of vertebral compression fractures
- Crowds or risk of bumping into other people or things

Physical Education Clothing

- Independent – able to manage clothing (e.g., t-shirt, sweatpants or shorts, running shoes)
- Installation of a floor mat for the student to stand on while changing
- Able to manage physical education clothing with assistance. Please specify (e.g. standby assistance):

Physical Education Exemptions

- If the student cannot temporarily participate in physical education class, the student could perform their physiotherapy program instead (please refer to the student’s physiotherapist).
- In the rare circumstances that the student is exempt from physical education classes, please include the signed documents from the primary care physician.

Playtime Considerations (e.g. Lunchtime, Recess, Extracurricular Activities and After School Care)

- Keep same schedule as their peers
- 1 on 1 supervision
- Use of non-crowded playground equipment under supervision
- Consider alternatives if the playground is unsafe due to weather conditions (e.g. icy, or slippery), or has a fracture.
- Enjoy outdoor fresh air on a clean ground surface, or sitting on a bench
- If in a wheelchair, alternate to a sleigh to enjoy the snow
- Remain indoors
  - Play in the gym with one or two friends under adult supervision
  - Practice their rehabilitation program
- For students with wheelchairs, promote stretching in a designated place (e.g., infirmary or classroom).
- Keep track of potential considerations (Appendix 4)

Outdoor | Winter Clothing

- Independent – able to manage clothing (e.g. put on winter jackets, snow pants, boots)
- Able to manage outdoor clothing with assistance. Specify below (e.g. help with fasteners, standby assistance):

- Have a small bench or chair near the locker for dressing
- Place shelves and hooks in the locker at an appropriate height
FIELDTRIPS

Field trips will require careful planning and possible additional accommodations. In such instances, it is important to elaborate a plan with the student, the parents, the teachers, and the healthcare professional(s). A few things to consider:

- Student to bring fracture kit
- Student to bring medication
- Assess availability of an adapted bathroom (if needed)
- Assess if the space is accessible (for wheelchairs, walking aids, etc.)
- Refer to the transportation section (section 8)

Additional Comments:

TRANSPORTATION

- Use of a regular mode of transportation (e.g., public transportation, bike, walk, lift from parents/carpooling).
- Use of a car seat in preferred mode of transportation. The mode of transportation must be equipped with anchorage for the car seat.
- Use of a regular school bus.
  - Recommend student sits at the front rather than the back where the ride is more bouncy
  - Requires supervision to get on and off bus
  - Recommends attaching the transportation sticker on the window of the school bus (Appendix 5)
- The student is registered with public adapted transport or adapted transport provided by school system. Specify:

  Additional Comments:

- Transportation accommodations may involve a wheelchair-accessible school bus or van.
  - The driver must be trained to use tie-downs.
  - Power wheelchairs may be heavier. Make sure the lift on the bus is able to lift the wheelchair.

Additional Comments:
SCHOOL EVACUATION PLAN

During fire drills and emergency evacuations, it is important to ensure the student’s safety. Due to possible mobility issues and risk of falls, a plan should be put in place.

- Contact local fire department to elaborate an evacuation plan for the student.
- OT or school nurse should review the emergency plan of the school to tailor to the needs of the student.

☐ Assign an adult for supervision of the student.

  Name: ____________________________________________

☐ Assign two trained adults if the child is in a wheelchair, to lift him in the wheelchair down the stairs.

  Names: ____________________________

If the wheelchair is too heavy for two trained adults to lift, it is best to lift the student without the wheelchair

Additional Comments:

________________________________________________________________________

SEATING CONSIDERATIONS

☐ The student should have preferential seating in the classroom (e.g., closer to the door, closer to the teacher, etc.) Specify:

________________________________________________________________________

☐ Ask the student where they would prefer sitting if they have hearing difficulties

☐ Consider having enough space for the student to get to their desk

☐ Consider an appropriate height for the desk and chair
**SCHOLARLY CONSIDERATIONS**

- Student needs accommodations for test taking (e.g., oral exams, use of computer, longer time to complete exam, breaks etc.) Specify:

- Student presents with decreased writing endurance hyperlaxity. They may need to use a computer or modifications, please contact treating OT for more information.
- Student may need more time to complete class work, assignments, or homework.
- If the student cannot temporarily attend school in person due to a fracture or recent surgery, remote learning should be considered.
- Student should have an extra set of books at home and in the classroom to avoid having to carry them around.

**Additional Comments:**

**ASSENT AND CONSENT**

**Consent to release information:** I authorize and provide consent to the school staff to use and/or share information in this plan for purposes related to the education, health and safety of me/my child. This may include:

- Displaying my/my child’s photograph on paper notices or electronic format(s) so that staff, volunteers, and school visitors will be aware of my/my child’s medical condition.
- Communicating with bus operators.
- Sharing information in special circumstances to protect my/my child’s health and safety.
  - Yes  No

**Consent to transfer to hospital:** I consent and authorize the transportation of me/my child to a hospital, if required, based on the judgment of school staff. I also permit a staff member to accompany me/my child during transport.

Please note: the school principal or designated staff shall decide if an ambulance is to be called.

  - Yes  No

**Consent to the plan:** I am aware that school staff are not medical professionals and perform all aspects of the plan in good faith and to the best of their abilities:

  - Yes  No
AUTHORIZATION

Parent/guardian signature: ________________________________ Date: ____________________
Parent/guardian name (print): ______________________________ Relationship: ____________________
Student signature: ______________________________
Health care professional (HCP) signature: ______________________________ Date: ____________________
HCP name (print): ______________________________ Date: ____________________
Role: ______________________________
Principal signature: ______________________________
Principal name: ______________________________

ANNUAL RENEWAL

When requirements change significantly, complete a new Individualized Care Plan with all involved.
If there are no changes between school years, use this sign-off sheet to confirm the plan has been reviewed by the school, the parent(s), and, when age-appropriate, the student.

This plan remains in effect for the ______ to ______ school year without change.
Parent/guardian: ______________________________ Date: ____________________
Principal: ______________________________ Date: ____________________

This plan remains in effect for the ______ to ______ school year without change.
Parent/guardian: ______________________________ Date: ____________________
Principal: ______________________________ Date: ____________________

This plan remains in effect for the ______ to ______ school year without change.
Parent/guardian: ______________________________ Date: ____________________
Principal: ______________________________ Date: ____________________

This plan remains in effect for the ______ to ______ school year without change.
Parent/guardian: ______________________________ Date: ____________________
Principal: ______________________________ Date: ____________________

This plan remains in effect for the ______ to ______ school year without change.
Parent/guardian: ______________________________ Date: ____________________
Principal: ______________________________ Date: ____________________
Appendix 1: Identification and Passport

The following resource can be used to make a customized, wallet-sized card that gives instant access to the student's medical information.

Identification card

This student has brittle bone disorder. Their bones are fragile. Please handle with care.

For any concerns, refer to a member of the staff who is aware of this student’s condition.

You may also create a passport at the following website: [https://wapps.sickkids.ca/myhealthpassport/](https://wapps.sickkids.ca/myhealthpassport/)
# Appendix 2. List of Suggested Items to be Included in a Splint Kit

Description of Contents Contained in the Splint Kit Created for Children with Osteogenesis Imperfecta Following a Fracture and Requiring Immobilization

<table>
<thead>
<tr>
<th>Item</th>
<th>Description and Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Instructional Card # 1</td>
<td>Presentation card: brief rationale of the project and links to the videos</td>
</tr>
<tr>
<td>2. Instructional Card # 2</td>
<td>Illustration of the main immobilization for upper extremities fracture (recto-verso: arm and forearm)</td>
</tr>
<tr>
<td>3. Instructional Card # 3</td>
<td>Illustration of the main immobilization for lower extremities fracture (recto-verso, upper and lower leg)</td>
</tr>
<tr>
<td>4. ACE Bandage with Self Closure 3in</td>
<td>An elastic bandage that may be wrapped around an injured area to control swelling or around a cast to secure it in place.</td>
</tr>
<tr>
<td>5. ACE Bandage with Self Closure 4in</td>
<td>An elastic bandage that may be wrapped around an injured area to control swelling or around a cast to secure it in place.</td>
</tr>
<tr>
<td>6. 3M Coban Cohesive Bandage 3in</td>
<td>A self-adherent elastic tape that may be wrapped around an injured area to control swelling or around a cast to secure it in place.</td>
</tr>
<tr>
<td>7. 3M Coban Cohesive Bandage 4in</td>
<td>A self-adherent elastic tape that may be wrapped around an injured area to control swelling or around a cast to secure it in place.</td>
</tr>
<tr>
<td>8. Padding Cast 7.5cm</td>
<td>Cotton bandage that may be wrapped around an injured area to provide padding and prevent friction</td>
</tr>
<tr>
<td>9. Padding Cast 10cm</td>
<td>Cotton bandage that may be wrapped around an injured area to provide padding and prevent friction</td>
</tr>
<tr>
<td>10. One-Step Splint 3x35in</td>
<td>A splint made of two layers of padding covering a fiberglass slab for an easy one step immobilization.</td>
</tr>
<tr>
<td>11. Scissors 5.5 inch</td>
<td>To help cut cast</td>
</tr>
<tr>
<td>12. Stockinette</td>
<td>First, thin layer of fabric that is applied directly on the skin when casting, preventing movement of the cotton padding and friction from cast edge.</td>
</tr>
<tr>
<td>13. Human Bone Stress Ball</td>
<td>Help relieve stress and muscle tension. May be used as a distraction tool.</td>
</tr>
<tr>
<td>14. Drawstring bag</td>
<td>Bag to carry all the tools needed to immobilize a fracture.</td>
</tr>
<tr>
<td>15. Sam Splint 5.5 x 36in</td>
<td>Splint made of soft aluminium with a foam coating that is applied to an injured area to stabilize a fracture.</td>
</tr>
<tr>
<td>16. Video #9</td>
<td>Trousse de premiers soins OI - Immobilisation de la cheville ou du pied: <a href="https://vimeo.com/273559934">https://vimeo.com/273559934</a></td>
</tr>
<tr>
<td>17. Video #10</td>
<td>Trousse de premiers soins OI - Immobilisation du bras : <a href="https://vimeo.com/273558129">https://vimeo.com/273558129</a></td>
</tr>
<tr>
<td>22. Bones and Fractures Memory Game</td>
<td>Help children learn about their bones, fractures and different therapies used in OI. Offer a potential distraction tool.</td>
</tr>
</tbody>
</table>
Appendix 3. List of Adapted Activities for Physical Education
Please use the table below to suggest ideas for adapting activities for students with OI. This table can be modified and re-visited yearly by physical education teachers to foster inclusion in gym classes.

<table>
<thead>
<tr>
<th>Original activity</th>
<th>Adaptation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balance Beam</td>
<td>Walking on a line rather than a balance beam to practice balance</td>
</tr>
<tr>
<td>Archery</td>
<td>Use a slingshot as a substitute for the crossbow</td>
</tr>
</tbody>
</table>

---
Appendix 4. List of Adapted Activities for Lunchtime, Recess, Extracurricular Activities and After School Care

Please use the table below to suggest ideas for adapting activities for students with OI. This table can be modified and re-visited yearly by teachers, animators and supervisors to foster inclusion in the school setting.

<table>
<thead>
<tr>
<th>Original activity</th>
<th>Adaptation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tag</td>
<td>Crawling instead of running</td>
</tr>
</tbody>
</table>
Appendix 5. Transportation Sign to be Posted On School Bus and Other Vehicles

I have fragile bones
HANDLE ME WITH CARE

DÉPLACEZ-MOI AVEC SOIN
Mes os sont fragiles
I have fragile bones
HANDLE ME WITH CARE