INFORMATION SHEET 4

LOOK BEFORE DIVING

LIFESAVING SOCIETY

INFORMATION SHEET – LOOK BEFORE DIVING

Between 2000 and 2008, 70 people sustained a spinal injury after diving in shallow water; this means that each year, almost 8 people in Quebec have been hospitalized for a spinal injury, also called medullary injury. 3 of them died from complications[1], and people who survived were heavily affected. Medullary injuries are severe traumas that cause lifetime disability – damages are irreversible. In spite of medicine's significant development, sequelae and long-term rehabilitation are often inevitable consequences of almost every type of spinal injury: paraplegia, quadriplegia, head trauma, etc. Most people injured after diving end up being quadriplegic, meaning that all four limbs are paralyzed, and spend the rest of their lives in a wheelchair.

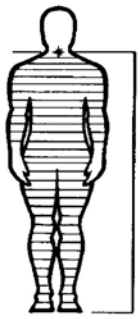
Typical victim profile[2]

- Male (80% of all cases)
- 18-44 years old (74% of all cases)
- Has never learned to safely dive
- Unaware of risks related to diving head first

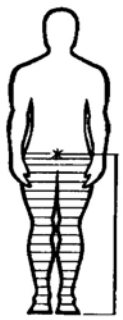
ONE THIRD OF SPINAL INJURIES HAPPEN IN A RESIDENTIAL POOL.

MEDULLARY INJURIES

The nervous system is essential to the body's proper functioning; it allows, among other things, movements (motricity) and perception of sensations. The central nervous system includes the brain and spinal cord. The spinal cord, located inside the spinal column, transmits the brain's signals to the rest of the body. A medullary injury occurs when the spinal cord is injured (bruising, severing, laceration, etc.). Victims of spinal cord injuries will suffer loss of feeling and motricity in various parts of their body. To put it in another way, when



TÉTRAPLÉGIE



PARAPLÉGIE

[1] TREMBLAY, Benoit, LAFLEUR, Johane, MERCIER-BRÛLOTTE, Hélène and Sylvie TURNER.(2010) *Faits saillants sur les noyades et les autres décès liés à l'eau au Québec de 2000 à 2008-Édition 2010*, p.15

[2] Idem

the head or spinal column is injured, as it can happen when diving in shallow water, medullary injuries can occur. Diving in an unsafe location can lead to spending the rest of our life in a wheelchair.

IN A RESIDENTIAL POOL

Residential pools in Quebec are not designed to allow safe diving. Accidents often happen in residential pools, even if recommendations state not to dive. The deep part of an in-ground pool is rarely long and deep enough to allow safe diving. People who dive in an in-ground pool can hit the slope between the shallow and the deep part. Diving boards at the end of an in-ground pool should be avoided; most of the time, diving boards are often installed without ensuring beforehand that people can safely dive from there.

In-ground pool

Above-ground pool

Above-ground pools are never deep enough to allow diving in safety. Even if someone makes a surface dive, risks of injury are substantial.

In short, never dive in a residential pool, in-ground or above-ground.

IN A PUBLIC POOL

Public pools may also be hazardous. Diving is only allowed in the pool's deep part. Tip: if diving boards are installed, it means this pool's area is deep enough for diving.

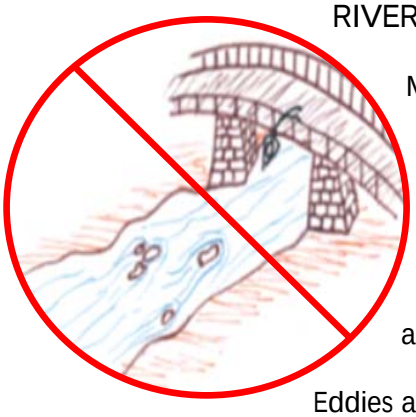
It is primordial to look and pay close attention to where we intend on diving to ensure that no one comes our

way while we dive. To avoid such incidents, some pools only allow diving in a specific area. Pay attention to the pool's regulation and to pictograms to help you dive in safety!

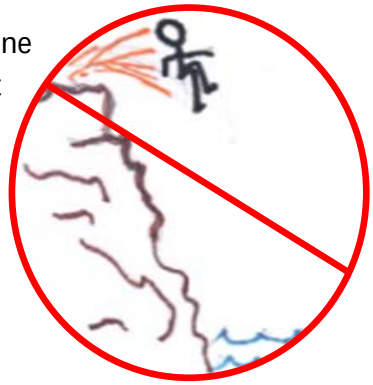
AT THE BEACH

Is it unsafe to dive in a wave? Of course it is! The minimum depth for diving is 2.75 meters; waves in shallow water are not deep enough for diving. Hitting the head on the sand can cause a severe medullary injury. Waves can be so strong that they deflect your trajectory, and you can end up hitting your head on the bottom or on an obstacle, such as a rock.

RIVERS AND LAKES



Media sometimes talk about people whose dangerous behaviour, such as jumping or diving from a cliff or a bridge, leads to serious consequences. Even is the water seems deep enough, these actions are terribly dangerous. It is extremely difficult, even impossible, to evaluate how deep a body of water is from an elevated location. Obstacles, such as debris or rocks, are not always visible.



Eddies are another invisible danger to anyone unacquainted with currents. They are created by an abrupt variation in a slope, which makes the current's speed quickly increase, then decrease. In other words, when water falls, it creates a reversal; from the outside, it looks as if water is boiling. Getting out of a reversal is extremely difficult (see Information sheet 3); additionally, obstacles, such as rocks, can be very dangerous.

SAFE ENTRY INTO WATER

To safely enter water, it is important to go feet first. **Always ensure water is at least 2.75 m deep on a 6 m distance from the edge of the water before diving**.[3] Even if you are an experimented diver, there is always a chance that you will miss your dive and hurt your head. Something distracting can happen at any time, making you miss your dive; a similar incident once occurred to an elite diver, who got seriously injured. How could *you* never miss a dive? Experimented and novice divers all need to prevent incidents by diving from a safe location.

[3] National Public Pool Safety Standards for Canadian Public Swimming Pools (2012)

PREVENTION

Think before diving: make sure the environment is appropriate. **Always follow these rules** to avoid any tragedy:

- ✓ Never dive in a residential pool or in a hotel pool – they are not designed for diving.
- ✓ Follow sign indications and regulations regarding water depth.
- ✓ Above-ground pools are never deep enough to dive safely.
- ✓ Verify the bottom of the body of water and/or the pool's shape before diving: make sure the diving zone is at least 2.75 m deep and 6 m long, and that there is no obstacle.
- ✓ A diving board installed in a residential pool does not mean it is safe to dive in the pool.
- ✓ Verify the bottom of the lake or river before each diving round to ensure there are no obstacles such as trees, rocks, sandbanks, etc.
- ✓ **Always enter water feet first before diving** to verify water depth.

EVERY INJURY CAUSED BY DIVING COULD HAVE BEEN BE AVOIDED – LET'S WORK TO PREVENT THEM!

alerte@sauvetage.qc.ca • www.sauvetage.qc.ca • 514 252-3100 • 1 800 265-3093

BIBLIOGRAPHY

TREMBLAY, Benoit, LAFLEUR, Johane, MERCIER-BRÛLOTTE, Hélène and Sylvie TURNER. *Faits saillants sur les noyades et les autres décès liés à l'eau au Québec de 2000 à 2008 - Édition 2010* (2010) Trois-Rivières, ministère de l'Éducation, du Loisir et du Sport - Direction de la promotion de la sécurité, 19 pages.

LIFESAVING SOCIETY. *Canadian First Aid Manual* (2012) 3rd edition, 98 pages.

LIFESAVING SOCIETY and FÉDÉRATION QUÉBÉCOISE DU CANOT ET DU KAYAK INC. *Sauvetage en eau vive* (2007), 118 pages.

MOELLE ÉPINIÈRE ET MOTRICITÉ QUÉBEC. *Moelle épinière et motricité Québec*, [online] 2011. [http://www.moelleepiniere.com/en] (June 25, 2014)