

## debritom<sup>+</sup>

### Pressure from standard jet

When the manufacturers of water jet and pulse lavage devices describe the pressure exerted by their device (in either psi or bar), the value the device exerts relates to the pressure of the water as it exits the handpiece of the device. It does not describe the pressure applied to the wound, because as the water jet exits the nozzle, the energy of the water jet dissipates as the water moves through the air, resulting in a dramatic reduction in water pressure being delivered to the wound.

As an example with Medaxis's debritom<sup>+</sup> as shown in the figure below. As the water jet exits the handpiece, a maximal pressure of 2300psi/160bars is created that would be applied to the wound should the handpiece be applied directly onto the wound itself. However, this force applied to the wound decreases with distance so that at a distance of 3.2 inches to the wound with the handpiece being held vertically, the impact pressure is 11.0 psi. With a distance of 7.9 inches to the wound with the handpiece being held vertically, the impact pressure decreases to 1.5 psi. This allows us to define the impact pressure on the wound as follows.

#### Impact pressure definition

The impact pressure is the abrasive effect brought about by the water jet of the debritom<sup>+</sup>. It is the force per area which is delivered to the wound surface. The impact pressure's force is dependent on the intensity level selected at the debritom<sup>+</sup> and the distance and angle of the handpiece in relation to the wound surface. The impact pressure on the wound ranges from 1 to 13 psi when debritom<sup>+</sup> handpieces are used according to the recommended distances and angles.

