Intraosseous insertion

What is an intraosseus device?

An intraosseus (IO) tool is used to give fluids, medications or blood to adults or children when it is difficult to find a vein. It is a needle which goes into the bone marrow in the middle of large bones.

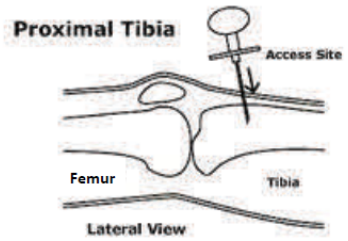

Image source: The Royal Children's Hospital Melbourne

It is used in emergencies and is similar to putting a needle into the vein for the same purpose, but it can be done a lot faster. This is a temporary measure that can save lives. It is a standard and well-proven best practice procedure.

How is it done?

There are many ways to place the IO device. Some of them are more mechanised and may look like drills. These devices are made specifically for the purpose of inserting an IO. Insertion is still done in some places by hand. The basic principles are the same and a needle is screwed into the bone.



Image source: Vidacare

Does it hurt?

It can hurt, just as placing any needle can hurt. When the patient is at all aware local anaesthetic will be used.

How long does it stay in?

The IO device will usually be left in place for under 24 hours, until alternate appropriate venous access is obtained.

Where can they be placed?

This depends on a number of clinical factors. The IO device can be placed just above, or below, the knee, at the ankle or in the upper arm.

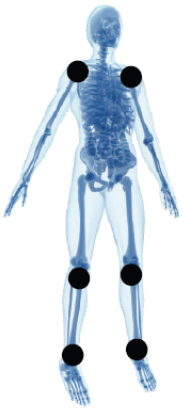

Image source: Vidacare

Is it safe?

This procedure is safe, particularly when the device is removed within 24 hours.

What side effects can occur?

Infection and failure of the device to work are the most common complications, along with leaking of fluid from the bone. With modern devices these complications are rare.

Do I need to be careful?

Care should be taken not to move the device when you move, or have contact with others.