Appendix 2: Types of Painful Stimuli

The type of painful stimulus used is a controversial issue, although it is generally agreed that a central painful stimulus is required to assess the eye opening, verbal and motor response in children who have a decreased level of consciousness (2,5,7,11). A central stimulus can be applied in one of three ways:

**Trapezium squeeze**
Using a thumb and two fingers, hold and twist the trapezius muscle of the shoulder (5).

**Supraorbital pressure**
Using a finger or thumbnail, apply pressure in the supraorbital groove. If a finger is run along the bony ridge at the top of the eye, a groove can be felt which is the supraorbital groove (1, 5). Applying supraorbital pressure can sometimes make a patient grimace and close their eye rather than open it. If this is the case, another form of central stimulus may be required. Supraorbital pressure is also not recommended in patients who have facial fractures (5).

**Sternal rub**
Using the knuckles of a clenched fist, vertically rub the centre of the sternum (5).

When applying a central painful stimulus, it is important to use caution as pressure on the supraorbital groove or sternum may cause unnecessary injury (7).

Peripheral stimulus can also be used to elicit a response. The most common peripheral stimulus is to apply pressure to the nail beds and observe for a motor response (4). However, peripheral stimulus may only elicit a spinal reflex, which may not be an accurate assessment of the patient’s condition (2,4).