Use of relaxation for POP management may initiate the inhibitory DMPP and result in the full or partial blocking of the nerve (pain) impulse (Fig 1). Relaxation stimulates the release of inhibitory chemicals in the spinal cord. These inhibitory chemicals will block or partially block the transmission of the pain impulse ascending to the brain, thus blocking or diminishing the perception of POP.

This is, however, not as straightforward as it appears. Patients have different levels of these inhibitory chemicals and this, in turn, is influenced by many factors, such as time of surgery, type and intensity of noxious stimuli, length of time following noxious stimuli, genetics, age, gender and culture.

To compound this further, the effectiveness of relaxation for POP is influenced by a range of additional factors, including environmental issues and psychological, social and spiritual needs. One patient may have a different response to relaxation from another patient.

The evidence to support the use of relaxation for POP is weak (ANZCA, 2010).

The DMPP may also be involved with facilitating the nerve (pain) impulse within the CNS. This increases the intensity of POP the patient experiences, known as hyperalgesia (Johnson, 2009), and may be initiated by:
- Unrelieved POP;
- Ineffective preoperative information about POP;
- Repeated postoperative treatments where pain is unrelieved, such as wound dressing changes.

If facilitation persists, then pathophysiologic changes in the PNS and CNS may occur, resulting in peripheral and central sensitisation (Table 4). If prolonged, this may become irreversible, resulting in CPSP (Samaraee et al, 2010).

**CONCLUSION**

It is crucial that nurses have an underpinning knowledge of pain physiology in order to understand how their patients experience pain.

They also need to be aware of and use the correct terminology when describing pain to other members of the healthcare team.

Part 2 of this series explores the assessment and management of patients with postoperative pain.

**TABLE 4. TERMINOLOGY USED TO DESCRIBE PAIN RESPONSES TO SURGICAL INTERVENTIONS**

<table>
<thead>
<tr>
<th>Pain Response</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allodynia</td>
<td>Pain due to a stimulus that does not normally provoke pain (IASP, 1994)</td>
</tr>
<tr>
<td>Peripheral sensitisation</td>
<td>Peripheral sensitisation arises due to the action of chemical mediators released around the site of tissue damage or inflammation that alter pain sensitivity by increasing the responsiveness of peripheral nociceptors and thus increasing pain (tinyurl.com/pain-hypersensitivity)</td>
</tr>
<tr>
<td>Central sensitisation</td>
<td>Central sensitisation is an increase in the excitability of neurons within the CNS, so that normal inputs begin to produce abnormal responses. Central sensitisation can occur after surgery, contributing to pain on movement or touch (tinyurl.com/pain-hypersensitivity)</td>
</tr>
<tr>
<td>Hyperalgesia</td>
<td>An increased response to a stimulus, which is normally painful (Merskey and Bogduk, 1994)</td>
</tr>
<tr>
<td>Primary hyperalgesia</td>
<td>Increased pain response at the site of injury, such as increased pain at the surgical wound site (Merskey and Bogduk, 1994)</td>
</tr>
<tr>
<td>Secondary hyperalgesia</td>
<td>Pain response that occurs in surrounding undamaged tissues, such as pain in undamaged tissue surrounding the surgical wound (Merskey and Bogduk cited by Johnson 2009)</td>
</tr>
</tbody>
</table>

**REFERENCES**


International Association for the study of Pain (1994) IASP Pain Terminology. tinyurl.com/pain-terminology


**USEFUL WEBSITES**

- Bandolier: The Oxford Pain Internet Site: tinyurl.com/pain-bandolier
- International Association for the Study of Pain: tinyurl.com/international-pain
- British Pain Society: tinyurl.com/british-pain
- Pain RADAR: tinyurl.com/pain-radar


