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| **Name:** |
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| 5A-4 |
| **Pathology Question:** |
| What are the physiological processes of acute and chronic pain? |
| **Report:** |
| It is well known that one of the main reasons patients go to the doctor or dentist is because they are in pain. Pain is a very complicated sensation to measure and treat because it is made up of both physical and emotional components. One way to categorize pain is by differentiating between acute and chronic pain. Understanding the components of each type is cruicial in helping us as dentists treat and care for our patients.  Acute pain is most often triggered by damage to tissues or a traumatic injury and does not typically last longer than a few weeks. The sympathetic nervous system can be activated by acute pain causing a variety of responses such as increased heart rate, increased respiratory rate, hypertension and restlessness. If acute pain is not treated or controlled in a timely manner, it can progress to chronic pain. Chronic pain is very hard to control and typically lasts 3 months or longer. It is associated with long-term unresolving pain that can decrease a persons quality of life and take a toll mentally, physically and emotionally. When an injury occurs to tissues, peripheral pain receptors (nociceptors) are triggered causing afferent sensory nerve fibers to become activated. The nerves have both myelinated and unmyelinated axons. The myelinated, fast-conducting axons are known as A-delta fibers and are associated with fast, sharp, acute pain. The unmyelinated, slow-conducting axons are known as C fibers and are associated with dull, throbbing pain, chronic pain. As pain becomes chronic, the nerve fibers become hypersensitive to stimuli and produce more intense, long-lasting pain that will not go away on its own.  Determining whether your patient is dealing with acute or chronic pain will not only help in the diagnosis of the problem, but will help you as the dentist provide the best treatment and care possible. |
| **References:** |
| 1. Pulp Histology lecture given 1/27/20 (Dr. Ibrahim)   Hargraves, K., Berman, L. Cohen’s Pathways of the pulp, 11th Edition. Elsevier, 2016.   1. Anwar, Khalida. Pathophysiology of Pain. 2016. Disease-a-Month 62:324-329.   https://0-www-sciencedirect-com.libus.csd.mu.edu/science/article/pii/S0011502916300505?via%3Dihub |