332 W10 Synchronous Reflection

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**Discussion**

**Ischemia**

Ischemiais a condition in which blood flow towards the heart reduces (Ibanez et.al, 2015). It restricts the heart from receiving enough oxygen to work properly (Ibanez et.al, 2015). Reduced oxygen supply causes partial or complete blockage of the heart's arteries (Ibanez et.al, 2015). Ischemia diminishes the heart's capacity to pump blood. Apart from causing abnormal heartbeat patterns, Ischemia can result in a heart attack (Ibanez et.al, 2015). Treating Ischemia aims at improving blood supply towards the heart. Furthermore, patients with more serious condition need to undergo angioplasty or bypass surgery (Ibanez et.al, 2015). Symptoms for Ischemia include chest pain on the left side. Rapid heartbeat and shortness of breath even after doing a simple physical activity are also the symptoms Ischemia. Individuals suffering from diabetes, high blood pressure, high cholesterol are at increased risk due to Ischemia (Ibanez et.al, 2015). Furthermore, obese individuals can experience serious complications due to Ischemia. Complications that arise due to Ischemia include heart attack due to the blockage of the coronary artery (Ibanez et.al, 2015). Furthermore, the abnormal heartbeat can make the heart weaker. These complications might prove deadly if not treated over time.

**Absolute Refractory Period**

The action potential is a transmission process in which neurons broadcast signals all over the body (Tackmann & Lehmann, 1974). The action potential is a process in which neurons are fired (Tackmann & Lehmann, 1974). The resting membrane potential of a neuron is measured at – 70 millivolts (Tackmann & Lehmann, 1974). At -55 millivolts, the stimulus initiates to polarize the neuron (Tackmann & Lehmann, 1974). The neural membrane remains open throughout action potential which allows passage of positively charged ions into the cell and negatively charged ions out of the cell (Tackmann & Lehmann, 1974). The action potential is the period from -55 to +30 millivolts (Tackmann & Lehmann, 1974). A specific phase during the action potential is called the absolute refractory period (Tackmann & Lehmann, 1974). During the absolute refractory period, despite the strength of a stimulus applied on a neuron, it cannot initiate another action potential (Tackmann & Lehmann, 1974). The total lifetime of the absolute refractory period begins from immediately after action potential and lasts after the peak of the action potential has been reached (Tackmann & Lehmann, 1974). Once, the absolute refractory period has been attained, the beginning of the relative refractory period (Tackmann & Lehmann, 1974).

**References**

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Tackmann, W., & Lehmann, H. J. (1974). Refractory period in human sensory nerve fibers. *European neurology*, *12*(5-6), 277-292.