The simplified version of the science behind laser treatment –

Think of a rose bush or other plant. When trimmed, roses use photosynthesis and the light from the sun to regenerate and grow new branches. Human tissue can also be stimulated to grow and regenerate in response to light waves. Human tissue can regenerate and respond to red and near-infrared light, which is what the cold laser uses.

For those who like even more science, in addition to directly affecting the pain modulation nerve fibers, LLLT reduces oxidative stress and has direct effects on the mitochondria, which produce energy for each cell. LLLT also directly increases healing potential by increasing your own natural stem cell production and improving the efficiency of your waste removal (lymphatic) system.

What does that mean? Mitochondria live inside our cells and produce energy (ATP). In stressed or oxygen-deprived tissues, mitochondria produce nitric oxide (mtNO) that binds to another compound called cytochrome c oxidase and competitively displaces oxygen leading to oxidative stress and reduced ATP (energy) production. The light given off by the LLLT affects the cytochrome c oxidase and displaces the mtNO, thereby reducing oxidative stress and increasing ATP (energy) production. A cascade of downstream metabolic effects lead to a reduction in inflammatory markers including prostaglandin E2, interleukin 1β and tumor necrosis factor α. Complicated (and that was the simplified version) - but you can see why this therapy is very exciting!