

# Radio Frequency Facial



Courtesy of Ang Domagala. LeKeyah Skin Rejuvenation Centre, Traralgon, Australia.



## How Radio Frequency works

Radio frequency devices produce an electric current using electromagnetic radiation falling within the frequency range of 3 to 300GHz. When this current passes through a tissue layer it produces heat. Skin rejuvenation occurs as a result of the thermal or heat damage to the dermis, the skin layer beneath the epidermis. Because it impedes the passing current more than most other tissue in the skin, the subcutaneous fat layer below the dermis generates greater amounts of heat and paves the way for deeper thermal effects.

Heating the dermis modifies the original properties of collagen fibers. They thicken and contract in response to the heat. This is what leads to immediately visible improvements. Heat also causes long-term collagen remodeling, which is how skin improvements and tightening continue a number of weeks after treatment. The inflammatory response of the skin to the wounds induced by heat leads to additional collagen synthesis as part of the healing process.

Radio frequency is not a new technology. It's been used for medical applications involving tissue heating for more than a century. Since gaining US FDA approval in 2002, it has been widely used as a non-ablative skin rejuvenation method. Although different devices produce varying results, with most current RF technologies it is possible to see at least some improvement in the skin tightness in the majority of people undergoing treatment.