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Mechanism of Correction of Pediatric Distal Radius Fracture Angulation by Low-Level Laser Therapy [LLLT] After Failed Casting

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It has been very widely reported that Low-Level Laser Therapy LLLT can aid in bony union [1]. But it was not stressed enough that bone fracture healing is most speedy and rewarding especially in children as their bones heal quickly due to their high metabolic rate, furthermore it was not stressed enough that LLLT can remodel the fracture not just quicken the healing of fracture [2]. Figure 1 shows a typical distal radius fracture incompletely healed and angulated, Figure 2 shows correction of fracture angulation and healing of the fracture after LLLT

With the advent of newer physiotherapy techniques known as Low-Level Laser Therapy (LLLT) that has Both bone healing and Bone Re-modelling potential, it has achieved something not thought possible.

Low-Level Laser Therapy (LLLT) unlike ordinary physiotherapy machines has the potential to Both Heal and Remodel the fracture ends to obviate the need for surgery as most patients are afraid of operation

LLLT is a totally noninvasive treatment modality. It has bio modulation action and acts on the cellular molecular level by increasing the energy level of the injured body cells, increased blood supply by the nitric oxide pathway, also causes gene activation to produce more BMP or bone morphogenetic protein, it further remodel the bone ends by its action of Both the osteoblasts and osteoclasts cells [3-5]. LLLT is free of side effects and well tolerated by patients and adds to our technology in managing delayed fracture union or fracture angulation in particular patients who strongly refuse the operative option.



Figure 1: Persistent Uncorrected Volar Tilt of Distal Radius Fracture

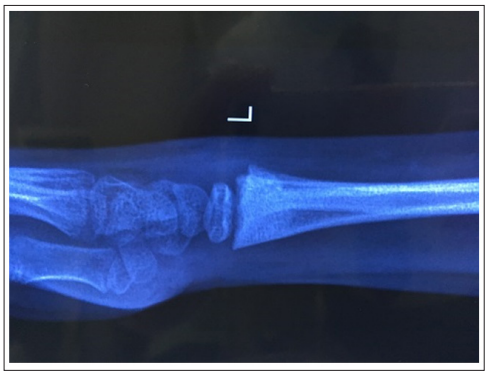


Figure 2: Healing and Remodeling of the Fracture After LLLT without need for Manipulation or Surgery

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