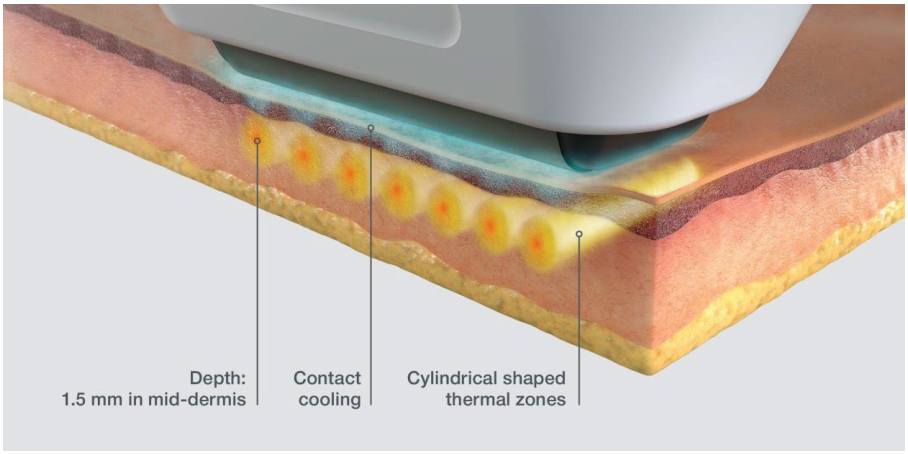
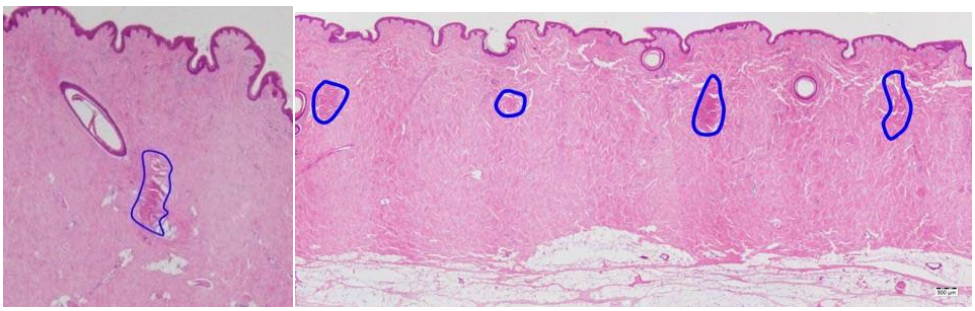
SYNCHRONOUS ULTRASOUND PARALLEL BEAM TECHNOLOGY

A new-generation ultrasound device-Sofwave™-has been developed to treat fine lines and wrinkles. Using proprietary Synchronous Ultrasound Parallel Beam Technology (SUPERB™), high-intensity, high-frequency, parallel beams bypass the epidermal layer and direct the thermal dose to depths of 0.5-2mm, while avoiding injury to deeper anatomic structures. Since all seven beams are operated at once, a high amount of thermal energy can be delivered to increase tissue temperatures to 60-70˚ C and induce subsequent collagen remodeling.



The applicator's proprietary solid-state energizer module, which holds the seven ultrasound transducers, allows for direct contact of the transducers to the skin surface. The feedback-controlled skin cooling and real-time temperature monitoring technology (Sofcool™) provides epidermal protection, accurate targeting of the thermal effect, and optimal pain management. The parallel delivery of ultrasound beams and the large contact area allow for low sensitivity to tissue inhomogeneity, which ensures uniform and repeatable effects in the tissue.

As the parallel beams propagate the tissue, a unique array of volumetric, cylindrical-shaped thermal zones is created that lie parallel to the skin surface along the same direction of the collagen fibers, which creates a unique vector line of tension. A high volume of coagulation coverage results in a high percentage of collagen contraction with subsequent neocollagenesis and neoelastogenesis. The collagen contraction creates vectors along the direction of facial lines and wrinkles, which can lead to fine lines improvement and wrinkles reduction.



Histologic samples of coagulation zones from Sofwave™ (left) and at progressively higher energies (right) using Synchronous Ultrasound Parallel Beam Technology (SUPERB™).