

Sonata System Challenges Diode Laser Limitations

By *Stephen A. May*

Diode laser technology remains the gold standard for the treatment of unwanted hair. Not only has it demonstrated outstanding effectiveness and safety, but there are no consumables, no special electrical requirements and systems are highly reliable and portable. The new Sonata™ system from Orion Lasers (Fort Lauderdale, Fla.) challenges previous limits of speed and energy, delivering fewer side effects, less discomfort and a much more palatable price tag.

Taking a lead from the LightSheer™ system from Lumenis (Santa Clara, Calif.) the Sonata is a compact diode laser system developed specifically for hair removal and permanent hair reduction. It is intended for use on all skin types (Fitzpatrick skin types I-VI), including tanned skin. John Hamel, M.D. of the Complete Laser Clinic in Morganton, N.C., is enthusiastic about the differences between the two systems. “The Sonata system is far ahead of other systems we have used in the past to permanently remove hair. Our patients are extremely satisfied with the results, speed and comfort of this system. We have had great success with all skin colors and all hair textures.”

He points specifically to a new feature on the Sonata that Orion calls CW Pulse™ technology, which involves a unique pulse structure to selectively heat hair without damaging skin. Using newer-generation continuous-wave (CW) diode technology, each pulse emitted by Sonata actually incorporates two discrete pulses. The first is a preheating long-pulse that safely heats the tissue, but not to the hair’s point of thermal destruction. The second is a much shorter and higher power pulse, which follows immediately after the first pulse, just as the skin temperature has been slightly elevated. Consequently, the temperature needed to effectively destroy the hair follicle and its surrounding irrigating vasculature is much lower. In practice, this novel pulse design allows higher, more effective fluences to be delivered with improved patient comfort. Because the other parts of the skin that absorb 810 nm light have a lower heat capacity (and therefore cool much more quickly), neither pulse nor the combination of pulses heats these components to the point of damage. The apparent result is less pain and little or no downtime, with the hair elimination results that users



Abdomen before Tx



Abdomen after Sonata Tx

expect from a diode laser.

“Initially, we were stunned with the lack of redness and discomfort experienced by our patients, thinking it must not be effective,” recalls Dr. Hamel. “Not only is the treatment improved, but the long-term hair removal results are far more effective than we have

experienced with other lasers, including similar diode lasers.”

Speed is always a concern with diode lasers, and more is always welcome. While Sonata uses similar 810 nm diodes, it delivers energy faster than most systems available on the market. Not only does the Sonata have a fast pulse repetition rate (up to three pulses per second), it has a larger spot size as well (12 x 10 mm). The Sonata provides high fluences (up to 100 J/cm²) for effectively treating both dark and lighter hair. It also incorporates very long pulses (up to 400 ms) to safely treat unwanted hair on all skin types, even tanned skin. Like other systems, Sonata includes integrated chilled-tip epidermal cooling for increased patient comfort and safety. However, Sonata also includes an integrated adapter that accommodates an optional Zimmer Cryo 5 unit for even greater cooling capabilities. The Sonata also costs much less than equivalent diode lasers on the market.

This combination of features impresses Amber Brown, M.D. of Brantford, Ont., Canada. “The Sonata has been a dream to work with - so much more comfortable for the patient, so much easier on their skin. It is a true 3 Hz system that really maintains its speed, even when you increase the fluence. Being able to perform procedures in a much shorter time period is beneficial to both our office staff and clientele.”

A diode system’s small size and high reliability has allowed manufacturers, such as Orion, to offer depot repair to their customers. If a Sonata system ever needs repair, Orion will overnight a replacement system in exchange for the original system and repair the original system at the company’s facility.

Mobility is clearly an advantage to any user and Dr. Brown has found ways to take advantage of Sonata’s versatile design. “I have several separate chiller carts and one main laser. The Sonata is no larger than the CPU of my computer and is incredibly portable,” Dr. Brown said.

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“The advent of a continuous wave diode makes treatment significantly safer for all skin types, particularly darker and tanned patients, as well as a marked reduction in post treatment edema and erythema.”

Many Sonata customers have traded in competitive systems not only for the enhanced product features, but also for the service that Orion Lasers is



Back before Tx



Back after Sonata Tx

providing. “As one of the newest companies in the laser market, we have to prove that we are worthy of our customer’s business,” explains Mauro Wjuniski, CEO of Orion Lasers. “In addition to outstanding performance, Sonata comes with a 100% guaranteed overnight replacement policy. If anything goes wrong with a Sonata, Orion will have you up and running by 10 a.m. the next day. Guaranteed.”

The founders of Orion Lasers have been at the forefront of innovative laser and light-based medical technology since 1980, having developed and sold many of the industry’s leading aesthetic laser systems while working for market leaders such as Lumenis and others. Their rich heritage, technical expertise and intimate understanding of practitioners’ needs have inspired the development of Orion’s Sonata system. ■