Before the availability of laser tattoo removal, tattoos were surgically removed, taking away not only the tattoo, but also the surrounding skin tissue, often causing permanent scarring. Later, carbon dioxide (CO₂) and nanosecond lasers (Q-switch lasers) were introduced; and while less invasive than surgery, they offered limited results that often came with side effects like scarring, hypopigmentation, and hyperpigmentation.

Picoscnd technology offers the most innovative laser tattoo removal technology. Compared with nanosecond technology of the past, today’s ultra-fast picosecond laser removal technology offers less risk and pain, faster results, broader range of colors removed, and fewer treatment sessions.¹,²

And unlike earlier technologies that removed a very limited selection of ink colors and were typically restricted for use on lighter skin tones as a safety precaution, picosecond laser technology, like that of the PicoWay system, can work across all skin tones—from fair to dark skin—and can remove a wide range of ink colors.³,⁴

**MEETING CHANGING TATTOO REMOVAL AND DEMOGRAPHIC NEEDS**

Along with technology changes, tattoo removal needs have also evolved. Now with 40 percent of millennials tattooed,⁵ treatment has advanced beyond complete tattoo elimination to removal of parts or layers of tattoos for art modification or simply to refine blurred or aging ink. Picosecond lasers, able to perform highly customized and targeted treatment and eliminate even difficult-to-target tattoo colors, have

“A lot of us are familiar with nanosecond technology, but there were limitations. My limitations were that I couldn’t treat all skin types safely. I also couldn’t predict what was going to happen to skin texture over time in these patients. This is the first time I am seeing skin tone improve over time as a tattoo is disappearing.”

— LESLEY CLARK-LOESER, MD

**LASER TATTOO REMOVAL TECHNOLOGY TIMELINE**

<table>
<thead>
<tr>
<th>1960s</th>
<th>1990s</th>
<th>2016</th>
<th>FUTURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO₂ LASERS</td>
<td>Q-SWITCH LASERS</td>
<td>PICOSECOND</td>
<td></td>
</tr>
<tr>
<td>Millisecond domain</td>
<td>Nanosecond domain</td>
<td>Picosecond domain</td>
<td>?</td>
</tr>
<tr>
<td>Scarring, thermal damage¹</td>
<td>Reduced collateral damage, but still had hypopigmentation, hyperpigmentation, and scarring²</td>
<td>Minimal Risk of hypopigmentation and scarring³</td>
<td>?</td>
</tr>
</tbody>
</table>

Over the decades, lasers have had challenges with skin of color | Recent laser developments have significantly minimized these risks by reducing thermal impact
opened the door for expanded treatment options and tattoo refinement. With 60 percent of the population expected to be skin of color by 2060, the importance of picosecond lasers, which can address darker skin without the concerns of prior generation treatments, is paramount.6

**HOW IT WORKS**

The PicoWay picosecond system delivers the shortest pulse durations of any aesthetic laser: one picosecond is equal to one trillionth of a second. These ultra-short laser pulses allow treatment across a broad range of skin types, including darker skin tones.

Less advanced lasers that offer longer nanosecond pulses create a photothermal effect, which can overheat melanin found in darker skin tones and cause scarring, hypopigmentation, and hyperpigmentation.

The PicoWay system delivers ultra-short, ultra-fast, powerful pulses of targeted energy, creating the primarily photoacoustic impact needed to fracture tattoo ink into miniscule particles. This is achieved without the photothermal impact of other lasers, which can overheat surrounding skin tissue—a stark contrast to the slower pulse speed of nanosecond laser technology.

**BROAD RANGE OF COLORS NOW REMOVEABLE**

The PicoWay system uses multiple picosecond laser wavelengths and handpieces to target specific colors. Colors previously unable to be removed, can now be targeted with specialized PicoWay technology, including difficult to remove blues and greens.3,4

**TREATMENT OVERVIEW**

Before each session, tattoo removal clients are asked to clean and shave the area to be treated. A topical anesthetic or cooling pack may be applied at the time of treatment. Treatments typically last 15-30 minutes and can require multiple sessions spaced 6-16 weeks apart, depending on the tattoo size and its complexity. After each session, clients are advised to keep the area clean and regularly apply sunblock to the area if going outdoors. Mild redness or itching may occur and typically resolves on its own after a few days.3,4

To learn more about PicoWay Laser treatment for tattoo removal or other uses, including acne scars, wrinkles, and benign pigmented lesion treatment, visit candelamedical.com

---

4. PicoWay 510(k) clearance for tattoos with 785 nm handpiece (K160607), July 2016.