

SIGNS *of* HOPE

For Florida-based podiatrist Dr. Duane Cumberbatch, Snapshot_{NIR} has become an effective tool for inspiring patient confidence, enhancing compliance and improving treatment outcomes.





Adell Mohrek

When Adell Mohrek and her daughter, Cheryl Buckley, arrived for their first appointment with Dr. Duane Cumberbatch in March 2021, neither woman was feeling particularly hopeful. Mohrek, 97, had been suffering from chronic vascular wounds — one on each ankle — for more than six years. In that time, she'd undergone two stenting procedures and made regular visits to both a wound clinic and a vascular specialist. And still, neither wound was showing clear signs of healing.

Fortunately, things were about to change.

“On our initial visit with Dr. Cumberbatch,” recalls Buckley, “one of the first things he did was pull out a beautiful camera gadget that he used to take a picture of my mother’s wounds.”

That “beautiful camera gadget” was Snapshot_{NIR}, a non-invasive, portable imaging device that uses multiple wavelengths of near-infrared (NIR) light to provide physicians with an almost-instantaneous measure of soft tissue oxygenation at a wound site.

Upon learning of Snapshot_{NIR} and its capabilities, Dr. Cumberbatch — a podiatrist who specializes in advanced wound care and limb preservation in Fort Myers, Florida — obtained the device for his practice in early 2021 and has since made it an important part of his diagnostic tool kit.

“I use Snapshot_{NIR} for any patient who has a wound, or any kind of circulation issue or concern,” says Dr. Cumberbatch. “It’s such a helpful device for both me and my patients, in that it really lets us see what’s going on beneath the wound’s surface.”

With just one click of the Snapshot_{NIR} device, near-infrared spectrum light passes harmlessly through the skin and is reflected off the blood supplying the tissue. Light absorption of hemoglobin differs when it is carrying oxygen compared to when it is not, which means the levels of reflectance captured in a Snapshot_{NIR} image can help physicians to understand and assess a wound’s tissue viability, determine treatment and even track healing as it progresses.

In Adell Mohrek’s case, the initial images captured by Snapshot_{NIR} weren’t promising. While the color red indicates the highest level of oxygenation at a wound site, Mohrek’s scans came up almost completely blue — an indication of very poor oxygenation.

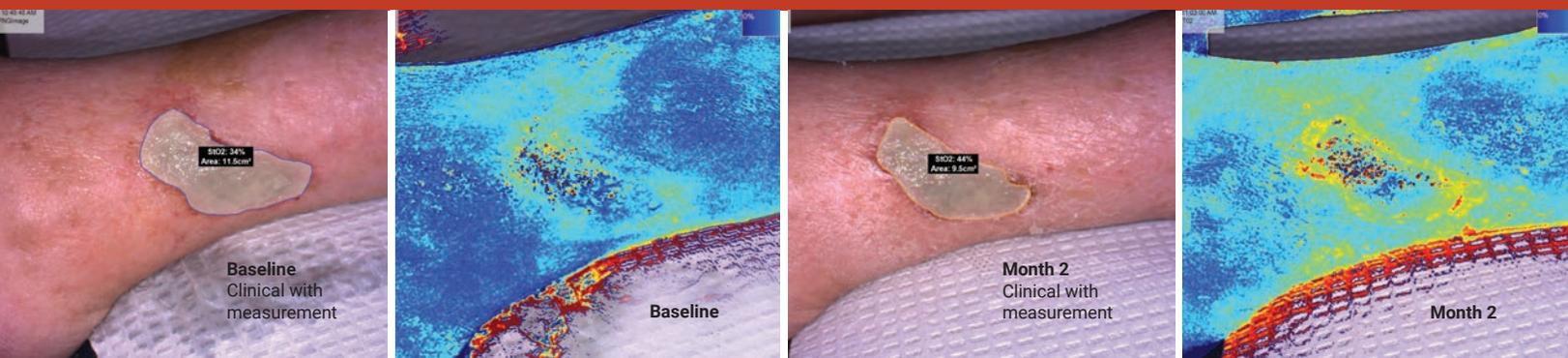
As Cheryl Buckley puts it: “I remember Dr. Cumberbatch saying, ‘Do you see how this image is totally blue? That means there’s absolutely no oxygen coming into your mother’s legs. We need to get some blood flow to these wounds for your mom.’”

DEMONSTRATING PATHOLOGY, INSPIRING COMPLIANCE

For many physicians who have incorporated Snapshot_{NIR} into their practice, one of the most compelling attributes of the device is how helpful it can be for both assessing oxygenation and the healing capacity of the tissue. It’s also beneficial when explaining to patients and colleagues why a certain treatment path is the way to go.

“I believe that somebody can make better decisions if they can really understand what I’m trying to accomplish, as opposed to me just giving them things to do and not really explaining what’s happening,” says Dr. Cumberbatch.

Below: Serial imaging from Adell’s left ankle. You can see the improvement in tissue oxygenation as more yellow, orange, and red appears in the S_iO₂ images, indicating the highest level of oxygenation. The wound area went from 11.5cm² to 6.8cm² and tissue oxygenation from 34% to 44% over a period of four months.



Snapshot_{NIR} gives a visualization of the oxygenation that's occurring or not occurring in the tissue, and the images it conveys help explain what we're trying to do. It helps patients understand why they might need to see a vascular surgeon, for instance, or why we might need to do an MRI."

Upon seeing the initial Snapshot_{NIR} images of Mohrek's wounds, Dr. Cumberbatch determined that his patient was not a strong candidate for any sort of surgical treatment. He explained to both Mohrek and Buckley what the images conveyed, then suggested they try shockwave therapy, which he hoped would help promote angiogenesis and improve oxygenation of the tissue.

Mohrek, with her daughter's support, consented and was soon undergoing weekly shockwave treatments. After the treatments, Dr. Cumberbatch would pull out Snapshot_{NIR} once again and say, "Let's look and see what's going on."

This time around, the images he captured revealed an increase in tissue oxygenation to both wounds – especially the smaller one on the right ankle.

"All of a sudden there were yellow streaks through the blue," recalls Buckley. "There was even just a hair of red coming through – on the right side, especially. Dr. Cumberbatch pointed at it and said, 'Ooh, we're making progress.'"

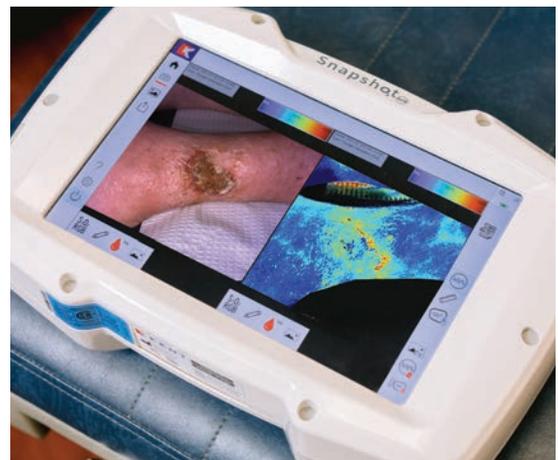
It was a galvanizing sight for mother and daughter. The signs of healing that had eluded them for more than six years were finally beginning to show.

"It was so exciting to see improvement," says Buckley, "and it just kept going."

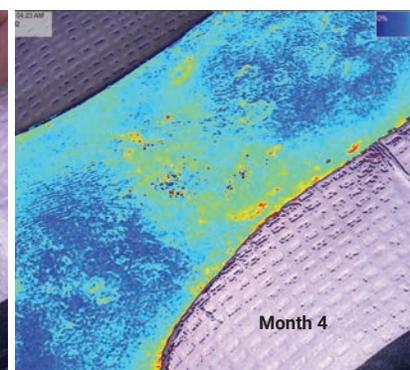
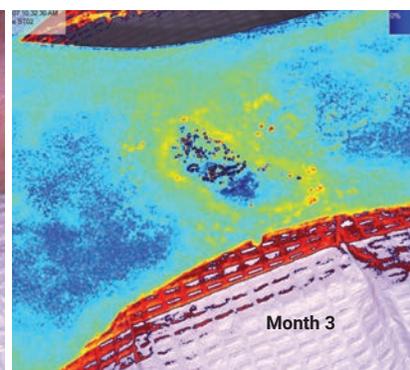
Within six months of starting treatment with Dr. Cumberbatch, the wound on Mohrek's right ankle had completely healed, and the deeper, more problematic one on her left ankle had vastly improved. And, over those six months, whenever Mohrek expressed doubt over whether the latter, worse-off wound would ever heal, out came Snapshot_{NIR}.

"Dr. Cumberbatch would show her the pictures of her wounds, all the pictures, and he'd say, 'Here's how your wound looked when you first came, here's what your wound looks like now.' And she'd look and say, 'Oh yes, it is a lot smaller. It is getting better,'" says Buckley.

Indeed, for Dr. Cumberbatch, the fact that Snapshot_{NIR} can store and then easily display all images of a wound as it progresses through the course of treatment has proven especially helpful with patient compliance.



Above: One of Adell Mohrek's chronic wounds captured on Snapshot_{NIR}, comparing the clinical image to the NIRS (near-infrared spectroscopy) image.





Cheryl Buckley and her Mother, Adell

“One of my biggest challenges as a podiatrist who specializes in advanced wound care is having to temper a patient’s desire to heal quickly with the fact that, in reality, it’s going to take some time for a wound to get better,” he says. “There’s usually no magic bullet, no quick solution that’s going to cheat the patient’s time to be healed. That’s why it’s so important for patients to understand that treatment is a process and you have to stick with it. Snapshot_{NIR} helps with this challenge — it tracks the healing in a clear way, showing the pictures of improvement and increasing a patient’s willingness to keep going.”

BEYOND WOUNDS

While Dr. Cumberbatch has found Snapshot_{NIR} to be an effective tool in caring for patients with advanced wounds, he has also incorporated the device into other parts of his practice, including surgical planning.

“I’ve used Snapshot_{NIR} in hospital to help plan for amputation sites,” he says. “A lot of times with my patients, because they have small vessel disease or don’t have adequate blood flow to the foot, amputation of a toe, for instance, won’t heal in a regular way. But I can use the Snapshot_{NIR} device to get an overall

assessment of where and what the tissue oxygenation is and what would be the best site to do the amputation to minimize healing time. I’ve also used the device on patients who come in for lesser cases, or for elective surgery.”

From elective surgeries and amputation procedures to wound care and limb preservation, Snapshot_{NIR}’s ability to provide near-instantaneous measurement of oxygen in a variety of scenarios can make a big difference when it comes to reducing complications, improving outcomes and, for many of Dr. Cumberbatch’s patients, inspiring a sense of confidence in the treatment and healing process.

Just ask Cheryl Buckley, who still brings her mother to see Dr. Cumberbatch — although those visits are fewer and farther between as Mohrek’s remaining wound continues to heal.

“Every time I see that Snapshot picture change, it’s just so heartening,” Buckley says. “Whenever we visit, he’ll take the image, and then he can flip back to the one he took a month before, three months before, and to when we first started. And the difference is dramatic. It gives us lots of hope, where we didn’t have hope before.” ■