

## National Naval Medical Center

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### Dermatology Clinic offers new laser treatment for smooth-looking skin

By OS2 Wendy Kahn

NNMC Public Affairs

**BETHESDA, MD** -- Many male Sailors have heard the following words from their division chief, "Shipmate, shave right after quarters," to which some Sailors respond, "But chief, I have a no shaving chit."

The consequences of not shaving result from a disorder, is known as pseudofolliculitis barbae (PFB). By definition, PFB, otherwise known as "razor bumps," "shaving bumps" or "ingrown hairs" is a common condition that occurs primarily in African American men and other people with curly hair.

The problem results when hairs grow back after shaving into and under the skin to form a small curled mass within the skin. As a result, the skin becomes inflamed and over time, can cause scarring and discoloration.

According to statistics, about 20 to 60 percent of African American men suffer from PFB, which concerns the military services.

The substantial attrition rate of Sailors and Marines caused both services to institute a program to purchase laser equipment to treat the African American population and other people with shaving bump problems.

Last fall, National Naval Medical Center's Dermatology Clinic acquired two new lasers that will treat PFB and large birthmarks, or port wine stains, in newborn babies.

"The Altus Cool Glide Laser is a state-of-the-art, non-scarring hair removal laser at a wavelength of 1,064 nanometers for treating razor bumps in African American men," says Dermatology Clinic service chief CAPT Timothy Curtin, MC.

CDR Christopher Norwood, MC, staff physician also at the Dermatology Clinic, explains how laser therapy has been a Navy initiative specifically for the PFB disorder. One of the problems with PFB and hair growth is that servicemen can't wear gas masks. Both the bumps and the hair growth will interfere with the gas mask seal. By not having a proper fitting seal on the mask, the chances of inhaling chemical and biological agents increase significantly.

From a safety perspective, laser therapy eliminates the bumps on the face, which provide the members with a better seal when wearing the gas mask in a chemical environment. Therefore, servicemen can carry out their duties in a much safer manner.

"It's a treatment that needs to be done from a racial perspective," he says. "It's a big problem, and we have the technology. Rather than expect those men with PFB to seek out treatment on their own, we can take care of the problem for them, as well as any other type of abnormal or excessive hair growth."

In the long run, the overall cost for treating servicemen with PFB will save the Navy and Marine Corps a large sum of money because the laser equipment will eliminate the attrition of servicemen who have PFB.

"It's a win-win situation because if the cost to train a Marine or Sailor is about \$100,000, and he is separated in six months for PFB, that amount of money could be saved by retaining the member in the service," adds Norwood.

The procedure of hair removal using the laser is simple, but some risk is involved. The laser does sting, and patients are asked to arrive at the clinic at least 30 minutes early so that an anesthetic cream can be applied.

be applied to the area that needs treatment, according to Norwood. Afterward, patients go into the laser room. They wear goggles to protect their eyes, and then the laser is moved across the face, heating one-centimeter circles of hair at a time. Norwood emphasizes that the laser may rarely burn the skin and leave some hypopigmentation at the end of the procedure.

The risk can be minimized, however, by turning the energy level down. The treatment is always started at a low level of energy to ensure the patient's safety. Then the energy level increases upon subsequent visits.

Norwood says that at least four treatments are needed to reduce the hair growth; it is not instantaneous. The treatments are done over a four-to-six-month period to allow some hairs to regrow. The target of the laser light is the shaft of the hair inside the hair follicle. By heating the shaft of the hair, heat is dispersed to the area around the hair shaft where the cells are that generate the hair growth. In essence those cells are "cooked" so that the hair can't grow in that area anymore.

The procedure lasts about 15 to 20 minutes, and the hair removal is fairly permanent. After a patient has undergone a full set of treatments, shaving is no longer required because the beard won't grow.

A patient currently undergoing treatment for PFB is Phillip Bush II, a retired Navy ET1(SS). He explains his feelings about how the new laser treatment changed his life.

"My job required me to have a shaving profile, so I came into the clinic and was told about the laser treatment," he says. "This is my second treatment. The first treatment worked very well, but it was bit uncomfortable. In addition to the shaving bumps, I get folliculitis (inflammation of the hair root), so this treatment is definitely a lifesaver for me."

While the hair removal laser is used primarily for treating PFB, the V-Beam Candela Laser is used in the treatment of blood vessels. Using a wavelength of 595 nanometers, infants born with port wine stains can be treated as early as one month of age, or even right after birth, for complete, or almost complete removal. Thus, infants can avoid disfigurement of that birthmark before they become of elementary school age.

"According to Norwood, if the port wine stains are left untreated, they will become thickened and enlarged over the years. In addition, infants are also treated for hemangiomas that may affect important organs such as the eyes, ears and nose. Norwood says that when treated at an early age, scarring and ulceration from hemangiomas are reduced.

The treatment is performed using laser energy applied to the skin through a handpiece, explains Curtin. The hemoglobin in the blood absorbs the energy and destroys the blood vessels from inside the skin. Because the blood absorbs the energy, no other area of the face or body is damaged. In older children, sedation would generally be required to treat a larger area.

Curtin adds that treatment works best at an early age because the skin is thinner, and the port wine stains are flatter. In adults, the wine stains are thicker and more difficult to treat.

PFB, a treatable medical condition, is one of the most significant issues in the military. Preliminary results have shown that laser treatment is effective in hair removal without any side effects to the servicemember. Once the hair is gone, the bumps go away, and the skin gets very, very smooth.

Statistics also have shown that two or three years after treatment, people are not getting any hair regrowth. As a result, the Navy's PFB instruction has been modified to include laser treatments as an option to Sailors and Marines who have shaving bumps.

At present, NNMC is conducting an ongoing voluntary study on patients with PFB and treating them with the hair removal laser to prove that it does, in fact, eliminate PFB.

Servicemen who wish to participate in the study can contact their primary care physician, who would then refer the member to the Dermatology Clinic.

