

The Cutting Edge

How surgery is beginning to carve out the perfect MMA fighter.

"Hi, Marcus." The nurses know him by name. Seventy-seven different sutures over a career will do that for you.

He's told to close his eyes. There's a burning sensation—the local anesthetic—that makes his forehead feel like someone is pouring boiling water over it. The doctor waits for the numbness to set in, then manipulates the needle and thread through his epidermis, pulling the seams of the wound together. The sutures tug on his skin like a puppeteer's strings. It's the Irish bones, Davis thinks. They're sharp, angular, and when a fist slams into his face, the skin sandwiched in between tears like tissue paper.

One time—maybe the 70th, maybe earlier—Davis was playing around with his kid. They bumped heads. Davis' eyebrows turned red. His kid is 15.

"C'mon, now," Davis sighs, remembering. He's a prizefighter. He's fine with bleeding, but the referees and ringside doctors aren't. A little trickle from the nose is fine, maybe a line drawn from the eye. It makes fighters look what they are—tough. But

when Davis bleeds, he looks like a refugee from a "Fangoria" cover. It's revolting. It costs him fights. Costs him money.

"Every training camp for the last four years, I've been cut in," he says. "I've been cut grappling. Even with headgear on."

C'mon, now.

"YOU SHOULD SEE THE S---T I TAKE out of people's faces." Frank Stile, MD, a plastic surgeon in Las Vegas, is disgusted. "Some people have silk sutures, which veterinarians don't even use anymore. It's just these very utility-type closes that you'd use in a MASH unit for someone critically injured."

This is why Marcus Davis had hamburger in his forehead: 77 sutures, nearly all of them done by an arena physician or ER jockey, nearly all of them about as effective as Krazy Glue. They sew up the epidermis, the surface layer, Stile says, but don't bother with the dermis, the deeper layer. The wound closes, but only superficially. Scar tissue develops.

"You have an unstable scar. It's going to break easily and bleed profusely. And they sew up the same scar, edge-to-edge, again."

By Jake Rossen



Tired of having his face carved up like a jack-o-lantern in the ring, Nick Diaz submitted to the surgeon's knife for a reconstruction process designed to stop the bleeding.



Stile runs Clinique Plastique, a cosmetic office that makes pretty people prettier and trauma victims wonderfully average. One day, he sat down with his friend Kit Cope to watch a UFC fight. Cope brought a friend of his own, Nick Diaz. Everyone got to talking about Diaz's bout with K.J. Noons—the one that left the canvas looking like a slaughterhouse floor. Diaz couldn't get cut more in fights if the other guys had knives.

"Nick, I have an idea," Stile said. He wanted to shave down Diaz's bony facial protrusions and cut out all of the gnarled, abused garbage around his eyes. Then he'd use squares of dead donor tissue, collagen, to promote the growth of healthy, elastic skin. A variation on the procedure had been done before, but for

reconstructive purposes. This would be the first time for a prizefighter. You have to have faith, Stile told him, but I'll do it for free.

He marked the borders of Diaz's scar, wheeled him into the operating room, and sliced his forehead open. The useless tissue was scooped out; the sharp prominences were smoothed down. There's a covering over the bone, the periosteum, which Stile used as an anchor for the Neoform collagen inserts. Then he closed the layers up.

Diaz was supposed to wait 30 days before contact, then spend 60 days training only with headgear. Stile doubts he obeyed, but it worked anyway. Next two fights? No cuts. "Diaz ran into Marcus Davis and talked about it several times. Marcus

mentioned it to [UFC play-by-play announcer] Mike Goldberg. Mike told him he knew who I was, because we're friends. He made the introduction. We did the same procedure with Marcus."

Davis can now spar without headgear, can wade in without fear of being split. "I have total faith," he says, "that this has changed everything."

It's still early—Stile has done the procedure only twice—but he believes both Diaz and Davis have what he dubs "virgin skin." "It's like they're coming into the ring having never been cut, as opposed to someone who's been cut a half-dozen times."

Oscar Goldman would approve.

DODGING THE INCREASINGLY stringent urine auditing by state athletic commissions is getting harder: We know because the Japanese-scene imports come to the states with atrophied physiques. Human growth hormone? The test is coming. "Cycling" off steroids in time to pee clean? Nevada is going to test you at random throughout the year. There's no steroid problem. There's a problem using steroids.

And so in a sport where one mistake can make the difference between six and seven zeroes on your check, athletes are going to play the system. Not Davis, not Diaz—they just wanted to get back to baseline—but the time is coming when there will be acceptable risk in letting a surgeon slice open your face or arm or leg to



make you a better man. Nevada can test for Winstrol; they can't test for elective reconstruction.

Cut-resistant brows are only the beginning. Bone "rasping"—smoothing out the surface to make it less abrasive—will become more exacting with the addition of MRI scans to "map" the surgical attack. The battered, collapsed nasal dorsum in the nose of athletes who have been clocked there will be rebuilt, eliminating the wind-sucking slack jaw that's an easy target for a knockout.

Maybe that same athlete will have Lasek—that's with an e, not an i—a combat-practical eye surgery that can make even 20/20 vision better. And maybe he can aim his punch so surgically, with such precision, that his opponent won't have a chance unless he gets Lasek, too. (Tiger Woods got Lasik, obtained 20/15 vision, and won 7 of his next 10 events.)

You see where this is going. So does Thomas Sisk, MD, assistant professor of orthopedic surgery at the University of Pittsburgh. He's a pragmatic guy, not prone to hyperbole. And when he speaks of things that Isaac Asimov would find far-fetched, you begin to understand what the 21st century is capable of.

First: the muscle transfer. "Theoretically, you could take muscle fibers from other muscle tissue," ponders Sisk. "Say, taking a certain portion of the quad muscle and attaching it to or inserting it in the biceps muscle and tendons. It definitely would enhance someone's strength." But not their urine.

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Of course, strength is low on the list of desired fighting attributes. What athletes really want in MMA—a game of inches if there ever was one—is sustained resistance, the ability to take an extra three seconds to find the way out of a problem spot. This is where scar tissue becomes valuable. "You actually induce some sort of scar tissue. You add stiffness to a joint, like the ankle. They'd have more time before they submit to an ankle lock. Or let's say someone was being put in a Kimura. His shoulder being stiffer would give him a few extra seconds to do something before he'd have to submit. It'd actually be adding more rivets in the system to tighten up the joint and allow it to stiffen up." Excited, Sisk then begins discussing how suture wire in the tendon can accomplish the same thing. This is how it starts.

Fighting a savage who's fond of the rear-naked choke? Ask your surgeon to enhance the cartilage structures around the trachea. Getting hit on the button one time too many? Take silicone pads already popular in enhancing the jawline for cosmetic purposes and form a



Marcus Davis gets his face worked on by plastic surgeon Frank Stile, MD, who repairs damage in the dermis (the layer of skin below the surface) to promote more cut-resistant skin.

cushion that can absorb concussive trauma.

With your defensive posturing covered, you want a few more weapons. Since your opponent had that collagen stuck in his face, why not shave your elbow bone down so it becomes a concealed blade?

Hell, since fighting is your whole life, why not go all the way? "I'm sure you've read about gene modification in people with cystic fibrosis," Sisk says. "Why couldn't you design a gene, put it into genome therapy, into a virus, and then intentionally infect somebody to cause increased structural integrity in the cartilage? To make the cartilage stronger, why not genetically make it stronger?"

Why not? For ethical reasons? "Sporting" reasons? "A lot of people miss this point, but the first reason steroids and diuretics are illegal isn't because of an

unfair advantage," explains Nevada State Athletic Commission Executive Director Keith Kizer. "It's because they damage your body. None of these surgical issues would come into play with that."

BACK TO 2009. "ONE THING ABOUT surgery I tell people is, 'You're never better than new.' Whatever the Lord brought you, we can't make that better. We just try to get you back to where you were." Johnny Benjamin, MD, chairman of orthopedic surgery at Indian River Medical Center, is speaking. He wishes fights wouldn't get stopped so often because of blood. "Cuts on the face or the scalp bleed like hell. It makes for a dramatic, gory fight, but rarely is it dangerous."

The scar tissue removal isn't a performance enhancer, he says. "It doesn't make them fight better, just bleed a little less." But this other stuff? Shaving down elbows? Tightening ligaments? "Anything else in my mind would be very unfair. Guys with repeated facial injuries and scars, they're repairing an injury. Guys who say, 'I'm going to get screws implanted in my elbow so I can nail a guy in the head with it,' come on."

Come on. But combat athletes are making millions now, same as in the M.L.B. And players in the minor leagues, even in high school, are asking about elective Tommy John surgery, a procedure designed to repair the ulnar collateral ligament in injured players. It works so well that patients typically throw harder and faster than ever. It's almost like you hope to get hurt.

"As the money gets greater and greater for the fighters, they'll look for more and more of an edge," Benjamin says. "It's in every other sport."

"I didn't do it to have some kind of special advantage over anybody else," Davis says. "I did it to lengthen my career. If someone said to me, 'We can pull your lungs out and give you the lungs of a dolphin,' no, of course not. I'm not going through that."

Davis laughs. And someone, somewhere, just got an idea. 🙌

SKIN DEEP

We've all been there: You love getting punched in the face, but hate having to deal with unsightly cuts. In the past, boxers soaked their faces in brine or pickle juice in an ill-advised attempt to make skin more pliable. Today, athletes can get collagen implants. In between, there's skin care.

Athletes who cut repeatedly in bouts should seek out a plastic surgeon in order to make sure their wound is closed from the inside-out; it'll be less likely to reopen in the future. Until it heals, avoid conflict. "For skin to achieve its full tensile strength, it usually takes 90 days,"

says Frank Stile, MD, a plastic surgeon. "But these guys fight sooner."

Stile's advice for a scar-free mug: "Avoid getting hit." (And avoid the collagen-based creams that claim to toughen skin: Your face can't absorb it.)

If all else fails, you could take a cue from Eastern

philosophy. "When Pride came here, Japanese media were asking me about guys who drink olive oil so when they start sweating, they'll be more slippery than a normal human being," says Keith Kizer, Nevada State Athletic Commission executive director. "We can't test for olive oil."