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## Simple fat transfer approach avoids sharp needles

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New York - Imagine fat as a substance bundled into intact parcels that are a size and shape allowing for them to travel through a small cannula - both when harvested and injected. This is the key to transferring the permanent subcutaneous filler, Sydney R. Coleman, M.D. said.

"The problem with fat transfer is that dermatologists . . . have the tendency to kill the fat by freezing it, putting it through a strainer, exposing it to air, or washing it," said Dr. Coleman, the inventor of LipoStructure, New York. "I recommend centrifuging the fat -- not to make it live better, but to keep it predictable so that you are injecting pure fat. This is somewhat simple, but the problem is to get physicians to do something simple. Often they want to harvest it with a suction machine that basically boils the fat."

### Simply blunt approach

While fat should be kept in its purest form, Dr. Coleman says the most important step for successful transfer relies on how fat is injected. "For safety reasons and for predictability, you need to use blunt instruments. Using a sharp needle is dangerous because it is easy to enter an artery, to inject fat into an artery, and it happens much more often than people acknowledge," Dr. Coleman said.

"When you cut a path with a needle to place the fat, you're basically opening up the tissue planes by cutting them, rather than letting them separate naturally," Dr. Coleman said. "When you place the fat (with a needle) it actually goes into a somewhat disrupted plane, so it can move easier and rub against each other, making it more difficult for blood supply and nutrients to reach the fat."

The size of cannula used for fat harvest should be approximately 2.1 mm, and the end where the fat enters during harvesting should be shaped so it does not cut the fat, but allows it to break off into little parcels that fit easily through smaller cannulas, according to Dr. Coleman. "The parcels can fit through a 17- to 19-gauge cannula very easily, but remember, the smaller the cannula, the more difficult it will be and the more likely you are to disrupt the parcels of fat, causing the tissue to die."

### Sharp risks

Introducing a cannula through 1-mm to 1.5-mm incisions creates a possibility for infection. "A lot of physicians are apt at this approach, but some are not, and as soon as you have an infection, the bacteria will eat the fat up," said Dr. Coleman. "It's difficult for persons not used to seeing patients after fat grafting to detect if an infection is present. People who are used to seeing these patients can easily tell the difference."

Alternatively to surface risks is the potential damage to underlying structures, that, according to Dr. Coleman, are a result of sharp needles. "I created the blunt instruments due to my own experience with a nerve injury in 1989 that actually resolved, but scared me enough that I felt like I should not be putting something sharp right next to the nerves," he said. "Even if you get away with it a few times, one of those times you're going to cut the nerve. With the blunt cannula, it's very difficult to injure the nerve. I've never had a permanent nerve injury when using a blunt cannula."

Another risk brought forward by a sharp needle is the possibility of entering an artery, which Dr. Coleman indicates is much more common than a resulting infection.

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"If you're near the eye, and you enter the artery injecting as little as 1/4 to 1/2 cc of fat in one bolus, you can produce a column of fat that travels back against the arterial flow toward the heart and into the brain," he said. "When you take the pressure off that column, regardless of what filler you're using, it can be released back into the central arterial system, and come out into the eye, blocking the retinal artery and causing permanent blindness."

"Even with the introduction of new fillers and those coming up, fat will maintain its prominence as the only naturally integrated subcutaneous filler, but it's important to know where the arteries are, to be very cautious of the amount you put in, and how it's injected," Dr. Coleman said.


#### About the Author

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