

# The "Blind Dissection" Controversy

## Blind Graft Production: Value at What Cost?

By Robert M. Bernstein, MD, New York, New York, USA

I was fortunate to catch an early glimpse of the provocative article "Blind Graft Production with Graft Cutting Grates and Multi-bladed Knives" on its way to Dr. Shiell and the *Hair Transplant Forum International* #5 (1998). The question at hand is relatively straightforward. When compared to the highly controlled stereomicroscopic dissection of donor tissue harvested as a single strip, do the potential benefits of blind graft production (which uses a multi-bladed knife and a cutting grate) more than outweigh its disadvantages and possible risks?

In order to make sense out of the long list of categories used to evaluate the two techniques, I have taken the liberty to organize them into the following groups:

1. **Intrinsic factors** — Factors affecting the surgical outcome that are intrinsic to the techniques discussed and cannot be eliminated.

2. **Extrinsic factors** — Factors that may affect the surgery, but ones that can be reasonably modified so as not to significantly impact the outcome.

3. **Economic factors** — Strictly economic issues that have no effect on quality.

### 1. Intrinsic factors

- Damage to the follicle
- Disruption of the follicular unit
- Viable hair(s) obtained per graft
- Amount of non-hair bearing tissue transplanted
- Total recipient wounding
- Foreign body reaction
- Pseudo-cyst formation
- Quality control
- Patient variability
- Preserving donor supply

### 2. Extrinsic factors

- Time grafts are out-of-body
- Risk of desiccation
- Staff training
- Staff stress and fatigue

### 3. Economic factors

- Cost of equipment
- Cost of labor
- Cost to doctor
- Cost to patient

### What The Patient Should Do

If I were advising a patient that had to choose between the two procedures, I would suggest the following:

First: To each of the factors assign a GOOD rating where the technique can clearly or potentially be of benefit, a BAD rating if it may do harm, and disregard those issues that make no difference. (For simplicity, I have assigned each factor a value of 1, although some factors are clearly more important than others.) Then count them all, subtracting the bad from the good.

Second: Pick a top-notch surgical team that could control the extrinsic factors so that they would have little or no impact upon the surgery.

Third: Make a decision taking into account that: 1) This surgery is being performed on your own body; 2) You only have a limited donor supply of hair; 3) You will have to live with the results of the procedure (good or bad), for the rest of your life.

### The Issues

I have eliminated the first three economic factors: cost of equipment, cost of labor, and cost to doctor, since the only factor that really matters to the patient is his cost. All the other economic issues are reflected in this one and are not the patient's problem.

Extrinsic factors, if not controlled, can play a major role in the outcome of the surgery. Finding a surgical team that is properly trained and experienced can minimize these issues. For example, the time that grafts are out of the body can be reduced by utilizing a sufficiently

*Semi-automated dissection devices are not new. (I first saw one invented by a Dr. Bennett in Australia nearly a decade ago.) Dr. Pascal Boudjema has had one commercially available for several years, and there are a host of "home-built" versions around. I have seen those of Drs. Khan and Blugerman and I know that there are others.*

*Dr. Mangubat has an elegant version with the usual bed of blades available in two spacings. His main contribution has been to emphasize the importance of impulsive force to cut the strip rather than the slow pressure used by previous devices. His reasoning is sound and a number of experienced operators have been impressed with the results.*

*In these days, when much discussion is conducted on the merits of meticulous microscopic dissection, the very mention of "blind dissection" can engender apoplexy in some of our readers. However, Hair Transplant Forum International has a policy of encouraging discussion on all aspects of hair restoration and seeing where it may lead. No doubt we will have our answer in 12 months time.*

*R. Shiell- Editor*

large staff or by taking a donor strip out in section. Adverse effects can be further minimized or eliminated by proper graft refrigeration. Any risk of desiccation can be easily eliminated by the use of holding solutions and the proper handling of grafts just prior to insertion. In addition, automation may soon make both of these issues moot. A sufficiently large staff that is adequately rotated and working in a comfortable environment will greatly reduce stress. If the patient is diligent in his research, he can pick a surgical team that satisfies these requirements.

The intrinsic factors are the real issue. A 35% incidence in follicular transection that was observed without even using a

microscope is, in my opinion, an extraordinary price to pay for a cheaper, faster procedure. It is argued that follicular transection is overestimated when two fragments representing the same follicle are both counted, (this error was not made in these counts), but even if the transection was half that, it would be too much. From my personal experience, with a multi-bladed knife with a inter-blade spacing of 3 mm, the transection rate was about 20%, and occasionally as high as 35%, so it doesn't surprise me that transection with blades set at 1 mm would easily cause damage in the range of 35% (or even more). In fact, Dr. Rassman, in his own practice, had abandoned using the multi-bladed knife after he had observed the transection rate to be unacceptably high. The fixed blade spacing of the cutting grate used in the next step, would further compound this damage.

Much has been made of Dr. Kim's studies showing that, under controlled conditions, a portion of transected follicles will grow. What is not often mentioned by those quoting his data, is that the hair that is produced is often finer and more delicate than the undamaged, full thickness terminal hair of intact follicles. Unfortunately for the patient, hair shaft diameter is as important to the final cosmetic outcome of the transplant as the absolute number of transplanted hairs.

Another important issue is the fact that multiple blades break up the naturally occurring follicular units. One doesn't have to do a controlled experiment to understand that a single pass of the multi-bladed knife with blades set 1mm apart will literally decimate follicular units randomly spaced at a density of 1 unit/mm<sup>2</sup>. Again, the fixed spacing of the cutting grate would further divide any follicular units that hadn't already been broken up with the multi-bladed knife.

Transplanting the whole follicular unit will insure that the greatest cosmetic benefit is obtained from each session. The compact nature of intact follicular units allows them to be placed into very small sites, minimizing recipient wounding. This, in turn, maximizes the amount of hair that can be placed into the cosmetically important areas, while maintaining a totally natural

## Medical Issues

	Microscopic Dissection	Blind Graft Production
Damage to the follicle .....	Good	Bad
Disruption of the follicular unit .....	Good	Bad
Viable hair obtained per graft .....	Good	Bad
Non-hair-bearing tissue used .....	Good	Bad
Total recipient wounding .....	Good	Bad
Foreign body reaction .....	Good	Bad
Pseudo-cyst formation .....	Good	Bad
Ability to control quality .....	Good	Bad
Impact of patient variability .....	Good	Bad
Preserving donor supply .....	Good	Bad
Economic factors .....	Bad	Good
<b>Total (good and bad) .....</b>	<b>9</b>	<b>9</b>

look. Minimal wounding will cause less compromise to the blood supply and produce less scarring. It will enable larger procedures to be performed at one time, and will help preserve the integrity of the recipient bed for future procedures. How much the wounding may be decreased will depend upon the surgical team, but since carefully dissected follicular units contain only about half the volume of the original donor tissue, the total wounding can potentially be cut in half.

## In Perspective

For those of us who embrace follicular unit transplantation at the outset, it could be argued that we might have acted too hastily...before all the evidence was in. But our rationale was that the procedure would improve the quality of our transplant. Our critics' main objection was that it might not be worth the extra effort. If we had been wrong, there was little to lose except time, effort, and unnecessary expense. In this case, when one risks damaging the patient's donor supply, the patients have much to lose.

The sudden disregard for follicular anatomy exhibited by this "blind grafting technique" runs contrary to much of the progress that has been made in hair restoration surgery over the past ten years. Hopefully, well-controlled studies will precede the general use of these instruments, so that the extent of damage can be accurately measured.

The "blind grafters" should clearly explain all the pros and cons of this type of dissection to their patients, as well as the limited knowledge we have of this technique so far, in order that their patients have true "informed" consent. Let's not go back to the days of the old plugs when doctors rarely told their patients all of the short- and long-term consequences of their procedures.

Blind graft dissection may indeed have some economic value, but what is the real cost to our patients? ■