



BHR CLINIC



FUE

FOLLICULAR UNIT EXTRACTION INTRODUCTION

FUE is a technique performed by only a handful of doctors worldwide. The extraction is technically more difficult and special attention must be given to the surrounding hair in terms of laxity, skin texture and ethnicity of the patient. The procedure extracts follicular units individually from the back and sides of the head, thereby expanding the surface area that can be harvested. The process is also slow (*approximately 2,000 FUs extracted and placed per day*), so larger procedures are done over a series of days.

FUE is less invasive than other techniques and therefore ideal in smaller procedures, such as for patients with minimal thinning or those who have had a previous poor strip surgery in which donor area laxity or density has been compromised. Because the punch tool is so small the incision is almost invisible to the naked eye, making signs of a transplant nearly indistinguishable even with short or closely shaved hair.

The donor area is shaved, allowing the doctor to precisely measure the angle of the FUs in the scalp. A punch then extracts the FU and the size of the tool varies depending on the number of hairs per FU. For example, a single-hair FU will require a smaller punch than an FU with four hairs.

#### WHAT IS IT?

Follicular Unit Extraction, or FUE, is the movement of genetic groups of 1 to 4 hairs known as follicular units, or “bunches”. With a great deal of skill and precision regarding skin and hair angles, a surgical punch surrounds and removes the FU. Extraction is slower than the strip technique, with between 1,500 and 2,000 extracted and placed in one day, but the yield, or growth rate, is what makes the technique so effective. This amount varies from person to person of course.

FUE also allows doctors to “cherry pick” a certain hair calibre for specific areas of placement. This is essential for designing hairlines, temple points and laterals as well as for eyebrow or eyelash reconstruction. Hair ideally needs to be fine, so having an entire donor safe zone to choose from enhances results. Like Strip/FUT, FUE also has limitations, but if the patient is made aware of the pros and cons it can produce very natural results.

FUE donor calculation for estimating Follicular Unit Extraction capacity

Donor surface area  $\times$  donor density (*minus miniaturization*)  
= Total FUE  $\times$  Extraction %

Example:

180 CM<sup>2</sup>  $\times$  80 = 14,400 FU  $\times$  27% = 3888 FU - Total can be extracted

Although FUs are removed over a wider surface area compared to Strip/FUT, this does not necessarily mean there are more FUs available. To calculate how many can be removed, the safe zone is divided into three areas (*two sides and the back*) and measured. The density of the FUs is measured in each area and an average is taken, including the number of hairs per FU, excluding miniaturization.

#### OVERHARVESTING OF THE DONOR AREA

There has to be a protocol as to the percentage of FUs that can be removed before density is visibly compromised. If this is not managed correctly it will reduce options for keeping hair short or restrict the donor area for any eventual future procedures. This is called “overharvesting”.

Dr Bisanga works with roughly 25-30% extraction per cm<sup>2</sup> depending on hair density and quality. The calculation (25-30%) assumes a maximum amount would be removed in one procedure, but that is often unlikely and not advisable. Larger hairless areas or wider scarring can also occur when larger punches are used. This is due to adjacent FUs being severed, which causes transection and will likely kill the hair.

#### EXTRACTION PATTERN

The pattern of extraction is also vital here. Since the average number of hairs per FU can vary depending on the donor safe zone, it is important to maintain an extraction pattern to avoid removing too many of a particular size from a particular area. The term “cherry picking” is often used with FUE and refers to the removal of finer hair for hair line work, but again this has to be monitored manually so not remove too many from a particular area.

#### HAIR CHARACTERISTICS

Hair characteristics and FU constitution play a large role in whether FUE is a suitable option. FUE is not suitable for all hair loss stages and hair types. This can be due to insufficient donor hair density or hair diameter, which in turn take into account the percentage of miniaturization in the donor area, the average size of the natural hair groupings, skin texture and healing properties. A personal consultation is always the best option before making a decision.



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## PRE-OP INSTRUCTIONS

To ensure that surgery goes as seamlessly as possible we ask you to read the following instructions. If you take any medication you feel could have a detrimental effect please inform us prior to the procedure.

- Avoid anti-inflammatory medications or aspirin for seven days prior to surgery.
- Avoid alcohol three days before and caffeinated drinks the day before.
- Avoid tobacco products at least 24 hours prior to surgery.
- Avoid multivitamins such as vitamin B and E for one week prior to surgery.
- Wash your hair the morning of the procedure but do not apply fixing sprays, gels or waxes.
- Eat breakfast the morning of the procedure.
- Wear comfortable clothes and a shirt that buttons down the front.

*Please arrange for a ride or overnight stay – driving home is not recommended.*

## DAY OF PROCEDURE

From a medical perspective, hair transplant is a minor surgical procedure performed under local anaesthetic with no overnight stay or bandages required. After the pre-op consultation to discuss design and expectations, the first step is to remove the follicular units from the donor area. Then placement sites are prepared and placements made. All of this is done manually at BHR.

## POST-OPERATION INSTRUCTIONS

### MEDICATIONS

**Only use medication prescribed by BHR. Any other medication must be confirmed with BHR before use.** Do not take aspirin or medication containing salicylic acid. Avoid any non-prescribed substances for one week following the procedure. Follow the instructions regarding medication prescribed by BHR. All medication should be taken with a meal. If you are given cortisone medication to avoid swelling of the eyes and forehead, **YOU MUST NOT** add salt to your food for the next five days.

**Painkillers** Two tablets every six hours or as prescribed by the clinic. Do not take aspirin or anti-inflammatory medication for at least three days to avoid thinning your blood and causing bleeding.

**Antibiotics** To be taken the night of the operation, the next morning and the following night.

## IMPORTANT INFORMATION

**Sleeping / Resting Position** > The ideal position for your head and upper body is 45 degrees using pillows to prop yourself up. This will help reduce swelling and can be maintained for three days post-op.

**Swelling** > This is a post-op side effect of hair transplant and will recede over a period of three to four days. A good sleeping position, ice packs, massage and drinking plenty of fluids will help minimize swelling.

**Shock Loss** > This is a rare side effect but it can occur in the recipient and donor areas. If you have a concern please contact BHR.

**Alcohol, Smoking and Sexual Activity** > Avoid alcohol, smoking and sexual activity for the first three days post-op.

**Exercise** > Avoid strenuous exercise for 14 days following an FUE procedure and 6-8 weeks following a strip procedure. Avoid hanging your head upside down for two days following a strip procedure.

**Sun** > Do not expose your head to direct sunlight for 14 days following the procedure. We recommend you wear a hat/cap for two weeks post-op when going out in direct sunlight and avoid excessive sunlight for six months following your procedure. Please wear the bandanna provided for the first three days and then progress to other caps, hats, etc.

**Swimming** > Avoid chlorinated water for the first three months. After a month you can swim in unchlorinated freshwater or seawater.

**Blood Loss / Infection** > Blood loss is inevitable during and immediately following the procedure. If bleeding continues, apply light pressure with a clean swab for 20 minutes. If it still persists, please contact the doctor. On rare occasions, a transplant may become infected. Be careful not to bump your head, if you do please contact the doctor.

**Numbness** > This can occur when small nerves are severed during the procedure. It is temporary and no reason for concern. In some cases it may last a couple of months as the nerve receptors repair themselves.

**Hairpiece** > If you wear a hairpiece, wait at least two weeks post-op before resuming.

**Important** > Do not use any chemical-based products such as hair dye, lacquer, spray, etc. for one month post-op. No concealer should be applied to the grafted area for three months.