

Introducing the Micro-FUE and the Unshaven U- FUE (Undetectable)

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Abstract

Background: There are many combinations of different factors that lead to hair loss. It is vastly a genetic issue that can progress further through stress, poor diet, hormones and/or lifestyle. The only permanent treatment for the hair loss is the Hair transplantation.

Objective: We describe the benefits of an advance form of FUE (Follicular Unit Extraction) that includes the micro-FUE and also the U-FUE. U-FUE is an innovation to the field of FUE hair transplantation as there is no need for the patient to have his head shaved prior to the procedure, so the procedure can be totally undetectable.

Results: Excellent healing of the donor and recipient areas, totally natural and undetectable final result with both methods (micro-FUE and U-FUE) and even few days after the procedure a discrete appearance of patients that have performed the U-FUE method.

Conclusion: On the results we can see that the instruments used in a hair transplant procedure, the skills and technique of the hair restoration surgeon and the way of extraction and implantation can offer totally different results not only in the percentage of the hair growth but also in how natural the final result can be. Moreover differences can be observed in the healing of recipient and donor areas and in the harvesting and damage of donor area as well.

Keywords: Androgenic Alopecia (AGA); FUE; STRIP or FUT; U-FUE; Micro-FUE; Donor area; Recipient area

Introduction

Hair transplantation surgery can be broadly divided into two main methods: The Follicular Unit Extraction (FUE) and the Strip surgery (FUT). Both involve redistributing hair from one area of the head to another; however the most important difference between the two is the method used for harvesting the follicular units; consequently how natural a result can be. With traditional Strip surgery, patients are left with a permanent linear scar at the back of the head which can be difficult to disguise and unsightly if the scar has enlarged due to poor skin elasticity. With FUE and more importantly Micro FUE, there are no scars and healing is very rapid following the procedure [1-3].

Principle of Follicular Unit Extraction

Follicular Unit Extraction (FUE) has become one of the most popular cosmetic treatments across the western world and now expanding to the faster growing countries like Asia and the Gulf countries [4].

In FUE the surgeon uses a specialized punch that extracts individual hair follicles from the back and the sides of the scalp (donor area-area with stable hair growth as the hair from that part do not have the genetic code for balding and will never fall out) and implants them individually on the area that suffers. Therefore when the hair from the donor area is removed to a balding or thinning area it retains its own genetic characteristics and will grow naturally.

One of the main advantages of FUE technique is that follicular units are being extracted individually from the scalp rather than in larger groups, which obviates the utilization of scalpel and stitching.

A specialized device less than 1.0 mm is inserted around the follicular unit and detaches it from the skin. Following this the surgeon uses a surgical forceps to extract the follicular unit.

Micro-FUE

The renowned hair transplant surgeon Dr. Kouremada-Zioga is the pioneer of an advanced minimally invasive method, the Micro-FUE. The main advantage of this procedure is the very natural and

undetectable results that can be achieved. This technique can be considered a great leap in the field of hair restoration compared with other older traditional techniques [5,6].

The graft extraction is simple, painless and heals only within few days. Most patients return to work the next day after having the procedure, especially if they choose the unshaven U-FUE method where their procedure is discreet. It is a pain free method performed under local anesthetic (Figures 2a-2c).

A specialized punch with a diameter from 0.6- 0.9 mm is placed in the skin around a follicular unit to make a small circular incision, separating it from the surrounding tissue (Figure 1). The unit then is extracted directly from the scalp. The instruments used are tiny, so there is minimal trauma in the donor area. Hence the donor area looks intact after the procedure and the final result very natural; more importantly the tiny follicular units are being extracted with the sebaceous gland and we have preservation of the vital elements of hair which helps in the survival rate and thereafter in the percentage of the growth success rate [7-9].

The treatment uses patients own hair which can be sourced mainly from the back of the head (donor area) or body hair e.g. chest hair. As we mentioned above a specialized punch less than 0.9 mm in diameter is used to extract individual hair follicles which are then individually inserted directly without the creation of any holes in the treatment area. This treatment has a 100% success rate [10] (Figures 3 and 4).

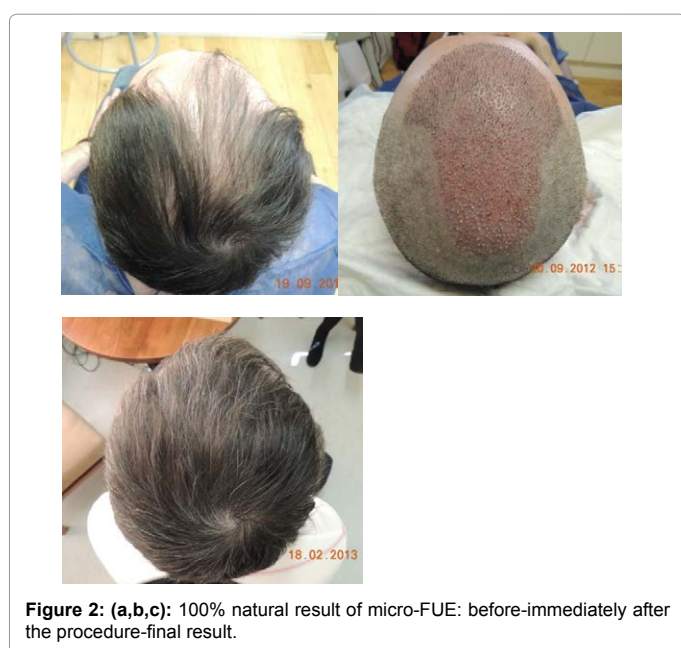
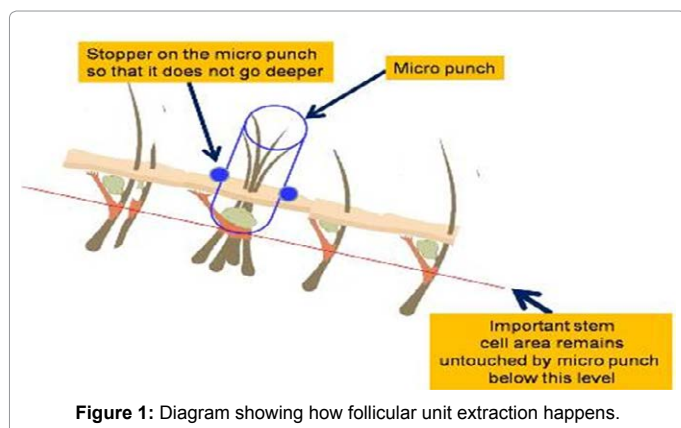
The insertion of the follicular units in the recipient area is taking

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Received December 02, 2013; **Accepted** December 17, 2013; **Published** December 24, 2013

Citation: Kouremada-Zioga T (2013) Introducing the Micro-FUE and the Unshaven U- FUE (Undetectable). Hair Ther Transplant 4: 114. doi:10.4172/2167-0951.1000114

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place by a very advanced technique that Dr. Kouremada Zioga has developed after her dedication over many years to make the FUE method very unique and advanced. The element that separates Dr. Kouremada-Zioga from other FUE clinician's technique is that many FUE clinicians make incisions in the scalp in order for the hairs to be implanted. Instead the insertion of the hair is taking place by the use of a specific instrument, a specific methodology and a high powered microscope that allows each graft to be implanted just with one movement. As there are no incisions, there is minimal bleeding and minimal trauma afflicted on the surrounding area. Subsequently the recovery and healing processes transpire very quickly without leaving any scar. The combination of working under high powered microscope and specially designed instruments allows the clinician to have to each follicle separately precise angulation, depth and direction control. This all contributes to the hair growing in the most natural way possible for the results to be superb and in line with the pre-existing hair growth pattern and directions. The most important element of working under microscope and using such small instrumentation is that any pre-existing hair during both extraction and implantation will not be damaged [11]. Each hair is being respected and protected.

Success is not only the implanted hair to grow but most important is how they will grow.

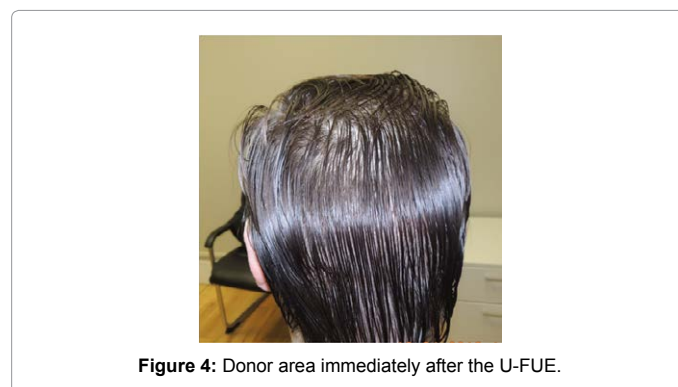
Nowadays the micro-FUE method can offer a 100% natural result to each individual. This means that explicitly detailed work is being performed that is always adapted to the needs of each patient offering the best possible results to each of them. The size of the instruments is also being adapted to the quality of the hair of each individual, for example some people have thinner hair in comparison with others. Using the combination of the microscope and the precise instrumentation allows her to perform the surgery in a purely non invasive way giving her an exceptional outcome and rapid healing time frame. Dr. Kouremada-Zioga varies her technique and instrumentation of the depth, morphology or thickness of the follicle. Most clinicians use a standard size that is not bespoke to the patient forcing the grafted hair into the site causing damage to the graft increasing the risk of future loss or the graft not successfully growing [12].

The micro-FUE allows the production of high quality grafts with fewer traumas. Each follicle is being extracted with its sebaceous gland and vital elements that increases significantly the success of growth rate; this therefore achieves as much density as possible in a single session is the desire of most patients. It was previously thought that density could only be achieved with larger grafts, which resulted in an unnatural look and often a scarred scalp. We use very small grafts to achieve significant density while creating a natural result [13].

With micro FUE we also have the ability to correct the old "Pluggy" look that resulted from outdated or poorly planned procedures. Repair of older type procedures has become a major part of Dr. Kouremada's practice.

Benefits of Micro-FUE Technique:

- Totally natural undetectable results
- Maximum density possible per session



- It is a pain free, non-invasive technique
- It is a procedure that offers permanent results. The implanted hair will never fall
- No scars or permanent linear scarring
- Patient has the possibility to keep his hair short after the procedure without any noticeable difference to the back of his head
- No shock-loss phenomenon will happen after the session
- No stitches, no scalpels
- High quality extraction. The vital elements of the follicular units are being protected (ex. dermal fat ,dermal papillae, sebaceous gland).Maximum growth rate and natural result
- By using a specialized implanter and a high powered microscope a natural dense packing result can be achieved
- Intact healthy grafts are being extracted
- No damage or loss of hair follicles and no transaction
- With the “one movement” implantation method, without the need of creating incision holes prior to implantation and the combination of high powered microscope; we offer at once the correct angulation, direction and depth to each individual graft so the result is 100% natural
- Possibility of using the same donor area again in the future. With this any future hair loss can be successfully treated
- No post treatment complications
- Quick healing of the donor and recipient areas
- Quick recovery
- As no incisions are being made prior to implantation the trauma is minimal and the risk of an infection is significantly diminished
- Single use instruments are being used
- Reparative procedures can be performed
- Ideal for eyebrows ,small procedures, facial hair
- Ideal for Afro Caribbean patients and female patients,too
- Body hair sessions can be performed
- Diagnosis and prognosis is a crucial part in the correct planning and treating of each individual that suffers from hair loss
- Possibility of U-FUE, the UNDETECTABLE UNSHAVEN U-FUE method developed by Dr. Kouremada Zioga

In FUE procedures the patient needs to shave his entire head. In some cases this is not convenient at all as many people are concerned about their appearance therefore they detest the idea of having their heads shaved for the procedure. The unshaven technique was developed for patients who wanted to be absolutely discreet [14].

So there comes the solution: **The UNSHAVEN UNDETECTABLE U-FUE**

Innovation in the field of Hair Restoration is the very advanced technique that Dr. Kouremada Zioga has developed, the U-FUE or Undetectable FUE, where there is no need the patient to shave any part

of his head prior to the procedure. It is a very discrete method and appropriate for people that desire to keep their procedure a private matter. The technique itself is performed by only a handful of surgeons worldwide and is very advanced in terms of the clinicians skill set in extracting intact grafts with the least transection and ability to implant the new grafts in a way that the pre existing surrounding ones are not affected or harmed [15] (Figure 5).

The methodology behind U-FUE is not dissimilar to Micro-FUE. The extraction process is still one by one follicle from the donor area and is implanted to the area that is compromised or lacking. The main difference is in the way the extraction and implantation takes place due to the existence of hairs in both areas – the donor and the implant site. This is where the doctor’s skill set comes is vital in achieving the desired result (Figures 6a-6c).

Scarring has always been a sticking point with patient when it comes to hair transplant surgery or the fear of people noticing that they have had treatment. The combination of the unshaven technique and “microsurgery” is a real leap forward in healing time and the hair implant procedure is undetectable. There is general redness (usually the redness in U-FUE procedures can be hidden by the presence of the pre-existing hair) post treatment for a few days but nowhere near as many as standard FUE or FUT where it can be somewhat invasive [16,17].

One of the main difficulties of the U-FUE is the limitation in the number of grafts extracted as the procedure is time consuming

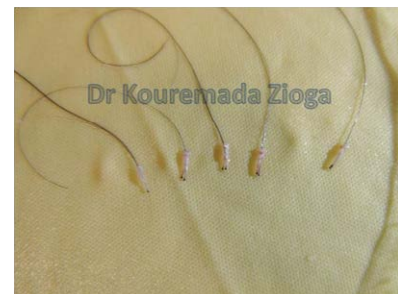


Figure 5: Intact grafts extracted with the U-FUE method.



Figure 6: (a,b,c): Result of U-FUE: Before-immediately after the procedure-final result.



Figure 7: Donor area after FUT or STRIP.

in comparison with simple FUE. In general the unshaven technique is more time consuming as it is more advanced than standard FUE therefore it is not recommended for very large hair loss cases where we need a superior quantity of hair (Figure 7).

Dr. Kouremada Zioga is now using the micro-FUE for her standard FUE cases or for patients that are not suitable for the unshaven technique due to the rapid healing time, the dense packing and totally natural undetectable results which patient really appreciate. The business of hair transplant is still to be discreet as possible.

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