Introduction: We use human follicular stem cells [1] to implant in cicatricial alopecia in order to promote hair growth. In each scenario we need to make a plan with the patient to outline the steps and mark the areas which need the most attention. In complex cases preferably together with a specialised surgeon from a burn unit. We aim to reconstruct nature as closely as possible in order to avoid the need of artificial hair or tattooing.

Method: The donor site needs to be a non-scarring high density zone on the scalp. Especially in men we need the consider the risk of (future) Androgenetic Alopecia (AGA). PL-FUT [2] is preferred because of its minimum invasive character to harvest follicular units out of a donor site. Almost full regeneration in the donor site is expected. Recipient area is marked based on the following parameters: number of grafts, clients goals for the result, aesthetic rules and potential amount of treatments. The recipient area is prepared with a curved needle, this determines the direction of the hair growth. Grafts are immediately implanted. Several recipient areas were used e.g. hairline, crown area and eyebrows.

Results: 1 week after PL-FUT on cicatricial alopecia, we see that the superficial healing process is in an advanced stage. A few crusts are still present, mostly attached on the hairs itself. A part of the hair is already growing. After nine months, the final result is established. We see hairs of various lengths. The recipient area seems more flexible and better perfused then before PL-FUT. Hairs are growing in the implanted direction and sometimes seems a bit coarse. Donor area shows no visible scars, has regenerated and ready for a desirable next treatment.

Discussion: Despite the fact that initially there is no hair growth on the scars, it is possible to initiate this through implantation of autologous follicular stem cells. Further attention should be paid at how to get density as high as possible in case of a small scar in the middle of a high density area. In case of a limited donor area we noticed a limitation in possibilities. Collaboration with surgeons in a burn units is essential in order to get the best possible result in complex cases.

Conclusion: We have shown that hair growth is possible in cicatricial alopecia. Even features of the scar changed after treatment with PL-FUT, for example perfusion improved. Features of the implanted hairs were similar to those in the donor site. Even if they are placed in order to reconstruct facial hair, for example, eyebrows.