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Robotic hair transplantation

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Follicular unit transplantation was classified into two techniques: (1) Strip harvesting follicular unit transplantation and (2) Follicular Unit Extraction (FUE). Artas robotic hair transplantation is the newly developed machine that use robotic arm to operate FUE. By using skin tensioner and photo sensor, robot machine can perceive the direction of each hair follicle within that frame and can process the robotic arm with two sets of punch (sharp punch and dull punch) perform FUE precisely. Artas robotic hair transplantation can improve FUE by increasing the speed and accuracy of harvesting. After using Artas robotic hair transplantation, for a few years, Artas function very well within the central area of the occiput that we called sweet spot. We found that there are some limitations of Artas robotic hair transplantation such as: (1) Limitation in the temporoparietal area of the scalp, (2) Limitation for the lower occipital area of the scalp (3) Limitation for female and senile patient, and (4) Artas has some limitation for previous surgery patients. We try to improve the result by: (1) Selecting the proper patient, not too old because of fragile tissue, (2) Perform tumescent solution injection as much as possible to decrease the would size and decrease the transection, (3) Upgrade the hardware and software of the Artas into 3,000 RPM version, (4) Combine using handheld motorized FUE machine to perform FUE in the temporoparietal and lower occipital, (5) Extract the hair follicles during on skin tensioner, and (6) Using team working to maximize the speed. Finally, robotic hair transplantation helps surgeon to perform FUE quicker and more accuracy. It is the important milestone on hair transplantation, but it needs more improvement for the best outcome of the patients.

Biography

Rattapon Thuangtong is 2nd year PhD student in Biomedical Engineering, Faculty of Engineering, Mahidol University, Bangkok, Thailand and he is expertise in Hair transplantation-Robotic, FUT, FUE, Synthetic hair transplantation and he is professional doctor from *Siriraj Hospital, Thailand*.

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