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Ergonomics Applied to Hair Restoration

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Surgeries that restore hair through mini or micro grafts are in many cases long and tedious.

Trying to find a methodology to expedite surgery and make it more dynamic we approached its ergonomic and rational analysis.

Ergonomics or human engineering—a science that studies the application of biologic and technologic principles to problems posed by the adjustment of workers to working conditions—has contributed work organization-related basic principles which, applied to surgery, rationalize procedures, simplify tasks and save time and movements.

This is also the rationale for a work team where both surgeon and assistants treat patients together. Thus, available time is better employed as procedures are shortened, work is done in a more relaxed way and more treatments can be administered to a larger number of patients.

Rationalize means to apply a reforming action capable of substituting obsolete work methods by others based on a systematic reasoning, whose objective is to obtain greater productivity with less effort, the best quality at the lowest possible operational cost.

Top quality apparatus and instruments, an adequate operational environment and a high level of knowledge and expertise are not enough to ensure rational actions. Elements should be placed in a

position which does not require tasks to be interrupted in order to search for them.

Unnecessary maneuvers, incorrect movements, defective working positions, constant changes in sight fixation and in the lighting of the surgical field rapidly fatigue the surgeon.

Fatigue is the effect of work on an individual's mind and body, adversely influencing his capacity, and tending to decrease quality and/or quantity of the outcome with respect to optimum results. All aspects involved in our practice should be analyzed applying the following principles in order to simplify work.

Anything you can do to eliminate unnecessary equipment or maneuvers and yet achieve the same end product is recommended. Also, attempting to combine several functions into a single instrument is helpful and saves time.

Classification of Movements

While performing his activities, every surgeon makes a series of movements that may be classified in six types (Kilpatrick):

- I Imply only finger movements
- II Involve fingers and wrist
- III Fingers, wrist, forearm and elbow
- IV Whole arm from the shoulder
- V Arm movement with body turn or rotation
- VI Momentary leave of the work place.

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Self-supporting forceps holder

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