



## Modern Plastic Surgery: Changing and Emergent Technology

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### Editorial

Globalization in the aspect of practice of plastic and reconstructive surgery brought the concept to publish all parts of the world.

Now we put it all together in the hope that those interested in the plastic surgery will be able to read and apply in all world these concepts and principles; constructive criticism is always welcome when it play a definitive role in care benefits of patients.

Few areas in surgery have witnessed such a growth as advancement in plastic surgery. Technical advances thought evolutionary and revolutionary mechanisms are now firmly entrenched with “medicine based in evidence”.

Considering the growth and increasing complexity of technology, invasive and noninvasive techniques, developed of specific instruments it must be emphasize that the teaching of mastering of plastic surgery cannot be effective without an appropriated and dedicated modern and intense education.

Plastic surgery is being expanded as a super specialty developing devices, both noninvasive and minimally surgical techniques, video-assisted tumor resection in head and neck, new and witty perforate flaps, minimally invasive treatment of aging face, biomaterials, robotic surgery and allotransplant of the facial tissues, between other.

Biomaterials differ from synthetic materials in that they are derived from animals or human tissues and preserve the native biologic properties and extracellular structure of the tissue; they act as bridge and reinforcement but after implantation are a biologic scaffold that may be remodeled with the host tissue.

Biomaterials have been applied as wound dressings in passive and active control; in the first by control wound moisture levels as hydrocolloids, alginates, hydro gels, etc and the second by manipulate local biochemical environment after altered biology of chronic wound as both antimicrobial and collagen dressings.

Very important in craniofacial repair must be mentioned numerous synthetic calcium phosphate (CaP) such as hydroxyapatite, betatricalcium phosphate, etc., they are biocompatible, osteoconductive and developing an adherent bond with bone.

The number of robotic-assisted operations with the da Vinci system is expanding across surgical specialties. As well as plastic and reconstructive surgeries, however till today, it has limited clinical applications. It will require substantial innovation to become a prominent tool for the plastic surgeon.

The advent of perforator flaps has expanded the horizons of plastic surgery. Harvesting a flap without sacrificing the underlying muscle reduces donor site morbidity. Developments of device like Doppler ultrasound or multidetector CT have contributed in such an important step for deciding which perforator to use and reduce operative time and complications rate.

The field of reconstructive transplantation has emerged over the past 25 years; however the first hand and larynx transplantation reached 18 years and only 11 for face transplantation; reconstructive transplantation is viewed as only approach leading to advancement of plastic surgery. Although the impact of these procedures, they are still under discussion and surveillance.

State-of-the-art reconstructive surgery has opened a wide range the possibilities in extremity salvage surgery allowing immediate injury, and also covering tissue defects with well vascularized

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tissue, optimally matched to meet the individual tissue requirement of the recipient site.

Video-assisted surgery with endoscopic approaches is being used in tumor resection in head and neck, in reconstructive cranial remodeling by congenital malformations, in treatment of aging face like frontal area and other plastic subspecialties.

Maintaining into of concept of NOS (Natural Open Surgery)

endoscopic techniques are also used in the resection of salivary tumors and lithiasis, which is associated with plastic surgery.

New technology and medical device are constantly emerging and changing the way in which plastic surgery must be performed. Proper honesty of each plastic surgeon and professional societies have to step up to establish guidelines for monitoring of competence in many of these emerging technologies.