/Reconstruction by surgical flabs

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Great advances in reconstruotive surgery has beenachieved since the introduction of myocutaneous and fasciocutaneousflaps as a powerful weapon in a hand of the plasticsurgeon.Myocutaneous flaps are based upon the principle that inmost regions of the body the skin derives its blood supplynot from specific cutaneous vessels, but rather from multiplesmall vessels passing to the skin from the underlying muscle.Since most of the muscles in the bmdy are nourished by adiscrete number of easily idetified arteries, it is possibleto elevate a given muscle in conjunction with the overlyingskin as a unit, with both skin and muscle receiving theirblood supply from the primary muscular vessels.To intelligentally select a myocutaneous flap, one shouldknow the viable length of the muscle supplied by its dominantvascular pedicle. This muscle length will determine the sizeof the viable cutaneous segment of the flap. Once this isknown, the flap can be determined by the location of thedominant vascular pedicle, which is the axis of rotationof the flap. Anatomioal studies olassify the musoles into5 types according to 5 patterns of ciroulations present.Muscles with minor or segmental pedicles (type II & IV)exhibit some problems that may benifit from delay techniqueswhich increase safety margin to the flaps.Platysma, latissimus dorsi and gluteus maximus musclesare chosen and their applications as myocutaneous flaps arediscussed in details to show the importance of myocutaneousflaps in reconstructive prooedures.Platysma myocutaneous flap is of significant advantagefor lining the buooal muoosal defeots in those patients withtumors of the gum. It is useful for mild to moderate faoialhypoplasia. Also, transposition of the platysma myooutaneousflap with intaot oervioal branohes of the faoial nerveresults in dynamio and continent oral oommissure repair.Latissimus dorsi myooutaneous flap has been used withsuccess for different reoonstruotive purposes as its usein head and neok reoonstruotion, posterior trunk reoonstruotion,breast reoonstruotion, extensive lower leg injuriesand also in reoonstruotion of heel and sole defeots.-128-The gluteus maximus myocutaneous flaps have been reportedas a method of choice used for pressure sores in certainareas. As a myocutaneous flap, it has several advantages overthe random pattern flaps previously used for this purpose.The gluteus maximus musole may be transposed to closea sacral or ischial pressure sore either alone or with overlyingskin.Myocutaneous flaps are extremely reliable and surviveto an exceedingly predictable level. They can provide wellvascularizedtissue and they are technically not so difficult. The disadvantages which are seemingly few includea moderate bulkiness of the muscle at the recipient site andthe frequent inability to provide a sensory innervated flap.Beside the two patterns of blood supply to the

skinrecognised as the musculocutaneous and the direct cutaneoussystems of arteries, a third type of fasciocutaneous vesselsexist that reach the skin by passing along the fascial septabetween adjacent muscle bellies and then fan out at thelevel of the deep fascia to form a plexus from which theblood reaches the skin. So, fasciocutaneous flaps come into-129-view and they prove great success. Fasciocutaneous flapsare simply classified into four groups according to theirpattern of vascularisation. The first use of these flapswas in repairing soft tissue defects of the lower leg andit achieves excellent results. Then the idea was transferredto other parts of the body with success.Dissection of the fasciocutaneous flaps is very simpleand it needs no much experience. The safety length tobreadth ratio may reach 3:1 or even more in some areas.Some complications are encountered when surgical flapsare used in reconstruction. These include flap necrosiswhich is attributed to many causes, suture line separation,and donor site complications.Some drugs have been proposed to reduce or prevent flapnecrosis. Piracetam (Nootropil), chlorpromazine, andpentoxifylline are discussed in details.