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# The pedicled groin flap in resurfacing hand burn Scar release and other injuries: a five-case Series report and review of the literature

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# **THE PEDICLED GROIN FLAP IN RESURFACING HAND BURN SCAR RELEASE AND OTHER INJURIES: A FIVE-CASE SERIES REPORT AND REVIEW OF THE LITERATURE**

## ***LE LAMBEAU INGUINAL PÉDICULÉ DANS LA RECONSTRUCTION DES LIBÉRATIONS DE CICATRICES DE BRÛLURE ET AUTRES LÉSIONS DE LA MAIN: SÉRIE DE CINQ CAS ET REVUE DE LA LITTÉRATURE***

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# Introduction



- Tissue loss in hands is common and the result of many etiologies/ acute burns, burn scar release, trauma and tumor excision
- important functional impairment, especially when tendons, nerves or vessels are exposed or involved in the initial lesion.
- Microsurgery has taken on an important role in the reconstructive arsenal from many perspectives

# Introduction



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- Two situations can be encountered.
  - 1: in many centers around the world, especially in low- and middle-income countries, microsurgery is not common practice : lack of experience surgical and trained teams, and unavailability of microsurgical equipment

# Introduction



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- 2: in centers where microsurgery is common practice, patient's condition can sometimes be a contraindication for microsurgery.
- The pedicle groin flap described by McGregor and Jackson in 19721 still has many indications in hand resurfacing all around the globe

# Goals



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- Describe our experience using the pedicled groin flap for hand injuries
- Analyse the weaknesses and strengths of the procedure through a comparison with data in the literature

# Patients and method



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- Operative technique:
  - Design of the flap
  - Incision and dissection
  - Undermining and closure of the donor site
  - Inset to the injured hand



# Results



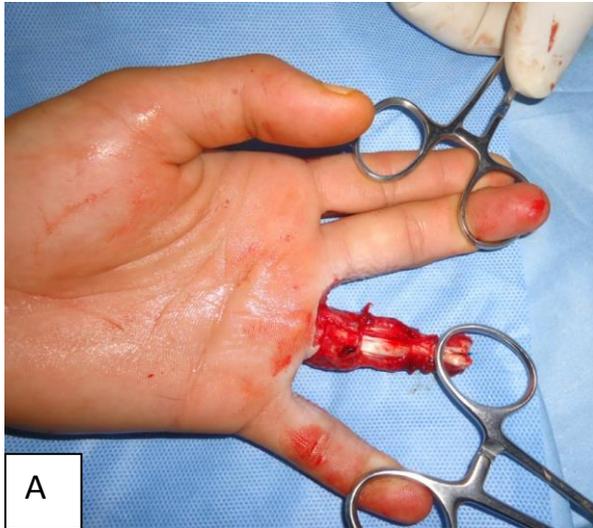
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Table : sociodemographic clinical and outcome characteristics of patients

| Sex | Age, Years old | Etiology                         | Surface of the hand defect, cm x cm | Structures exposed         | Post operative complications | Secondary Thining surgery | Satisfaction in regard to the flap | Satisfaction in regard to donor site scar | Follow up, months |
|-----|----------------|----------------------------------|-------------------------------------|----------------------------|------------------------------|---------------------------|------------------------------------|---|-------------------|
| M   | 18             | Ring finger                      | 7 x 6                               | Tendon and bones           | none                         | No                        | Very satisfied                     | Very satisfied                            | 24                |
| F   | 38             | Sequels of road traffic accident | 15 x 12                             | Tendons                    | Distal breakdown             | Yes                       | Satisfied                          | Satisfied                                 | 12                |
| M   | 58             | Squamous cell carcinoma          | 8 x 6                               | Metacarpo-phalangeal joint | none                         | No                        | Very satisfied                     | Very satisfied                            | 9                 |
| M   | 28             | Burn sequels                     | 10 x 7                              | Tendons                    | none                         | No                        | Satisfied                          | Very satisfied                            | 12                |
| F   | 32             | Burn sequels                     | 8 x 6                               | Tendons                    | none                         | No                        | Satisfied                          | Satisfied                                 | 8                 |



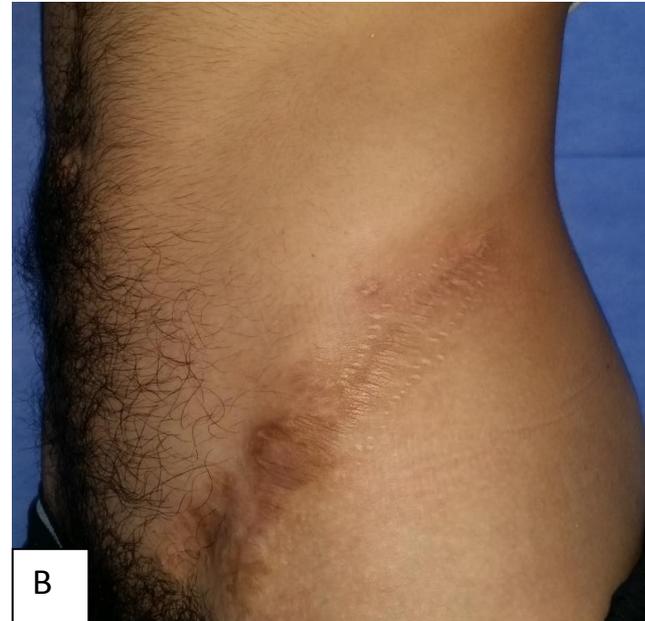
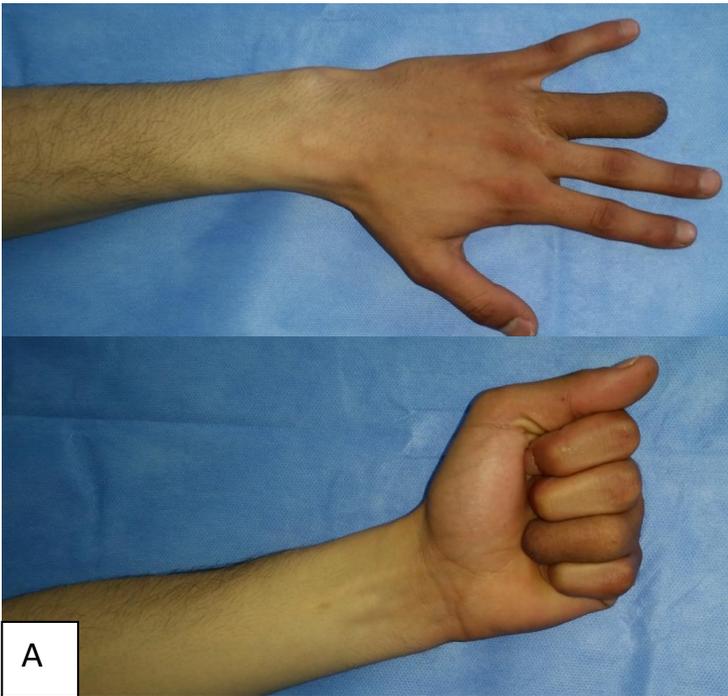
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- (A) Ring finger/ extensor repair;
- (B) Coverage of the ring finger with a pedicled groin flap



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Functional and cosmetic results, finger and donor site



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Excision Squamous cell carcinoma of hand, reconstruction with a pedicled groin flap



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Results on the hand (A) and donor site (B)



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Burn scar contracture of the hand, release and coverage with pedicled groin flap

# Discussion



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- advantages of groin pedicled flap :
  - vascular reliability (anatomic variations axis)
  - good vascular supply that enhances the viability of surrounding tissue
  - simple procedure that can be carried out by less experienced surgeons, and short operative time
  - secondary division and inseting procedures can be performed in a short outpatient procedure

# Discussion



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- emergency use because quickness of procedure
- large surface of the flap;
- tubed pedicle allows early wrist physiotherapy,
- good quality, hairless skin, with a good cosmetic appearance
- acceptable donor site scar, easily hidden by underwear
- full access to the iliac crest for bone graft harvest when required  
without additional scar

# Discussion



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- Disadvantages :
  - usually bulky, require multiple stages, necessitate longer hospital stay
  - patient discomfort, stiffness, and do not allow elevation of the hand after acute trauma
  - Primary reconstruction of composite defects can not be done

# Discussion



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- Refinements in technique during planning can offset many disadvantages :
  - proper planning to orient the flap towards the defect avoid kinking at the base, and inset ease
  - Lengthy flap and tubing, increases the patient's comfort, and makes division and inset of the flap easier

# Discussion



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- Combination with other pedicled flaps :
- With anterolateral thigh flap for a degloving injury of whole hand
- With Superficial inferior epigastric artery flap
- with tensor fascia lata myocutaneous flap to cover a completely degloved hand

# Conclusion



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Despite the current trend towards free tissue transfer flaps that provide excellent coverage for hand defects, the long operating time with increased risk of perioperative morbidity as well as the need for special equipment and well-trained surgical teams makes it unattractive and difficult in many centres. The pedicled groin flap has long been accepted as a safe, easy and reliable option for the reconstruction of soft tissue defects, and remains widely used.



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Thanks for your attention