

GUIDELINE ON MANAGEMENT OF LACERATED AND INCISED WOUNDS

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INTRODUCTION

Lacerated wounds which can be a cause of significant morbidity, and even mortality, if improperly managed are a common clinical presentation at all levels of hospitals.

The health care facilities in the island have been classified as follows for the purpose of this guideline.

- **LEVEL I** - run by para-medics
- **LEVEL II** - run by MOO,
- **LEVEL III** - General Surgery units at major hospitals
- **LEVEL IV** - Specialized units at apex institutions.

In prospective studies carried out at the National Hospital of Sri Lanka and a peripheral unit we came across many shortcomings in the management of lacerated wounds. Injuries to underlying important structures such as tendons and nerves are quite often missed with resultant significant morbidity. This generally happens with an over-confident health care giver who merely sutures the skin. Failure to remove foreign material results in unacceptable scars. Mismatching of the edges, especially with regard to facial lacerations, results in almost uncorrectable deformities.

Arrangement of the guideline

Management of wounds is described according to the anatomical region of the body in which they occur, as follows

- lacerations of the face (including ear),
- lacerations of the scalp,
- lacerations of the neck,
- lacerations of the torso,
- lacerations of the limbs

The causative factors of lacerated wounds, associated injuries etc will not be discussed.

Generally, multiple parallel lacerations, lacerations with complex shapes, clusters of lacerations, and lacerations with a significant degloving component are best left for the experts in a specialized unit. To this list should be added the situations where the doctor is 'in two minds'.

Incised wounds typically have sharp edges as opposed to lacerated wounds that have ragged edges. Hence, the management is simplified as the step involving conversion of a lacerated wound to an incised wound (by carefully trimming the edge) for the purpose of closure is not needed in the former. The other aspects of the management should follow the same lines as lacerated wounds.

The following abbreviations are used in the guideline:

- X** = Mandatory
- Y** = Nice to have
- Z** = Ideal

NOTE. The management of a patient with a lacerated wound must follow the normal protocol for the victim of trauma. Scalp and face wounds may bleed significantly and patients may need resuscitation. Refer Trauma guideline.

Section 1 LACERATIONS OF THE FACE

LEVEL I INSTITUTIONS

Considering the limited expertise and resources available only a basic level of care is possible and recommended at these institutions. Also non-availability of proper instruments and suture material could become a serious constraint in achieving a good result.

Please note that indications for transfer are enumerated under level II.

1. Control bleeding by applying direct pressure for five minutes
2. Look for eye injuries **(X)**. If present promptly transfer to a facility with an Eye Surgeon **(X)**
3. Irrigate the wound with normal saline to wash away any loose particles of dirt and foreign bodies taking care to protect eyes, nasal and oral passages. **(X)**
4. Do not try to explore, or remove ingrained foreign bodies unless you are going to suture the wound **(X)**
5. Do not suture lacerations unless you are confident of achieving a satisfactory result. **(X)**
6. Apply a pressure dressing if there is troublesome bleeding **(X)**
7. If not apply a simple dressing consisting of gauze **(X)**
8. Transfer to an apex institution with specialized unit as soon as possible **(X)**
9. If you decide to suture refer the following **(X)**.

Technique for suturing under local anaesthesia

Indications

- ✓ Superficial laceration/s
 - ✓ Small laceration/s
 - ✓ Single laceration
 - ✓ Simple laceration/s
 - ✓ Willing patient
-
- Use 2%Lignocaine/Adrenaline (diluted 1:1) **(X)** for infiltration of laceration 1-2cm away from and parallel to edge **(X)**
 - Use the smallest needle available (25G-27G preferred **(Y)**)
 - Beware of maximum dose of 7mg/kg **(X)**
 - Inject subcutaneous **(X)**
 - Wait at least 2 minutes **(X)**
 - Make sure it works **(X)**
 - Shave minimally if needed **(Z)**
 - Trim the edge minimally **(X)** using scalpel **(Z)** or sharp, strong scissors **(Z)**
 - Debride the surface with fine scissors paying attention to ingrained foreign bodies **(X)**
 - Secure haemostasis **(X)** by appropriate and available means
 - use Fine non-absorbable suture such as 5/0 or 6/0 Nylon/Polypropylene on eyeless cutting needle, 16mm-20mm **(Y)**
 - Catch in your stitch all layers that are lacerated **(X)**
 - Space stitches evenly **(Y)**
 - Avoid vertical mattress, to prevent bad scarring **(Y)**
 - Exert pressure on sutured wound for up to 5mn **(X)**
 - Apply a small dressing **(Y)**

Leave sutures for approximately 4-6days (Z)

Remember that complex wounds should be referred to a hospital with a surgical unit or above (level III or IV institution)

LEVEL II INSTITUTIONS

Generally, a higher level of care is to be expected at these institutions managed by medical officers. However, the experience and training of medical officers manning these places vary. Therefore, the guideline aims at ensuring the maximum care while avoiding any undesirable outcomes by not placing too much responsibility on the medical officers.

For details on management please refer to the above guideline aimed at level I institutions. The only difference is likely to be that you are better equipped to handle the situation owing to better training and possession of better instruments.

Absolute indications for transfer from level I, II, (III) institutions

1. Lacerations of eyelid, eyebrow
2. Lacerations of lip involving white roll, philtrum etc
3. Lacerations of nostrils
4. Complex lacerations of ear
5. Deep lacerations involving more than one tissue plane
6. Lacerations in Parotid area unless only skin-deep
7. Presence of significant degloving
8. Massive contamination
9. Presence of other injuries necessitating transfer
10. All cases where there is a doubt about achieving a good result

LEVEL III INSTITUTIONS

A much higher standard is expected from these hospitals. Only the most demanding and those needing highly specialized care should bypass or be transferred from these institutions.

For technique under LA refer under level I institutions.

Technique for suturing under general anaesthesia

Indications

- ✓ Large laceration/s
 - ✓ Complex laceration/s
 - ✓ Significant degloving
 - ✓ Deep lacerations
 - ✓ Multiple laceration/s
 - ✓ Unwilling patient (to undergo local anaesthesia)
-
- Shave minimally if needed **(Z)**
 - Trim the edge minimally **(X)** using scalpel **(Z)** or sharp, strong scissors **(Z)**
 - Debride the surface with fine scissors paying attention to ingrained foreign bodies **(X)**
 - Secure haemostasis preferably with bipolar cautery **(Y)**
 - Stitch deep layer (muscle) separately with absorbable sutures – 2/0 to 4/0 on round bodied needle, in case of deep lacerations **(X)**
 - Stitch skin with 5/0 or 6/0 non-absorbable suture on small cutting needle **(Y)**
 - Try to match edges to the best of your ability **(Y)**
 - Space stitches evenly **(Y)**
 - Avoid vertical mattress, to prevent bad scarring **(Y)**
 - Exert pressure on sutured wound for up to 5mn **(X)**
 - Apply a small dressing **(Y)**

Leave sutures for approximately 4-6days

LEVEL IV INSTITUTIONS

The highest level of care should be offered to patients with lacerated wounds in these institutions as a collective, team effort as opposed to largely individual efforts at lower level hospitals.

Suture of facial wounds by specialized units is included here for the sake of completeness.

- Trim the edge 1mm into uninjured tissue **(X)** using scalpel **(Z)** or sharp, strong scissors **(Z)**
 - Debride the surface with fine scissors paying attention to ingrained foreign bodies **(X)**
 - Secure haemostasis **(X)** with bipolar cautery **(X)**
 - Repair divided underlying structures such as nerves with 8/0 or smaller nylon/polypropylene under magnification (loupes/microscope) **(X)**
 - Repair divided muscle especially in the lip with 4/0 nylon/polypropylene/polydioxanone on a round bodied needle **(X)**
 - Exactly match the edges making use of remaining fixed and mobile landmarks **(X)**
 - Use absorbable sutures of suitable gauge on round bodied needle , 8mm-16mm for any divided deep soft tissue **(X)**
 - Use 6/0 **(X)** or 7/0 **(Y)** non-absorbable (nylon, polypropylene) **(X)** on cutting eyeless needle **(X)** for skin
 - Use 5/0 or 6/0 absorbable suture on tapercut needle for mucosa **(Y)**
 - Catch all layers of skin that are lacerated **(X)**
 - Space stitches evenly **(X)**
 - Avoid vertical mattress, to prevent bad scarring **(Y)**
 - Exert pressure on sutured wound for up to 5mn **(Z)**
 - Apply steri-strips or similar **(Y)**
 - Apply a light dressing only if essential **(Y)**
- Leave sutures for 4-5 days (X)**

Section 2 LACERATIONS OF THE SCALP

LEVEL I INSTITUTIONS

The same general comments with regard to the institution apply as mentioned under the lacerations of the face.

Please note that indications for transfer are enumerated under level II.

1. Exclude obvious head injury **(X)**. If present promptly transfer to a base hospital or above, **(X)**
2. Irrigate with Normal Saline **(X)** to wash away any loose particles of dirt and foreign bodies taking care to protect eyes, nasal and oral passages
3. Do not try to explore, or remove ingrained foreign bodies **(X)** unless you think you can do it safely
4. Do not suture lacerations **(X)** unless confident of achieving a satisfactory outcome **(Y)**
5. Apply a pressure dressing such as a crepe bandage if there is troublesome bleeding **(X)**
6. If not apply a simple dressing such as gauze and cotton bandage **(Y)**
7. Transfer to a major hospital with a General Surgery unit (level III) or an apex institution with a specialized unit (level IV), whichever is closer **(X)**
8. If you decide to suture refer the following **(X)**.

Technique for suturing under local anaesthesia

Indications

- ✓ Small laceration/s
- ✓ Single laceration
- ✓ Simple laceration/s
- ✓ Willing patient

- ❖ Use 2%Lignocaine/Adrenaline (diluted 1:1) **(X)** for infiltration of laceration 1-2cm away from and parallel to edge **(X)**
- ❖ Beware of maximum dose.
- ❖ Inject subcutaneous (not subgaleal) **(X)**
- ❖ Wait at least 2 minutes **(X)**
- ❖ Make sure it works **(X)**
- ❖ Shave minimally if needed **(Z)**
- ❖ Trim the edge 1-2 mm into uninjured tissue **(X)** using scalpel **(Z)** or sharp, strong scissors **(Z)**
- ❖ Debride the surface with fine scissors paying attention to ingrained foreign bodies **(X)**
- ❖ Secure haemostasis **(Y)** using appropriate means
- ❖ Use 3/0 non-absorbable **(Y)** (nylon, polypropylene or silk) preferably on cutting eyeless needle **(Y)**
- ❖ Catch all layers that are lacerated **(X)**
- ❖ Space stitches evenly **(Y)**
- ❖ Ensure both skin edges are at the same level **(X)**, thereby avoiding a step
- ❖ Try to avoid vertical mattress if possible, to prevent ischaemia of the edge **(Y)**
- ❖ Exert pressure on sutured wound for up to 5mn **(X)**
- ❖ Apply a padded pressure dressing (crepe) if needed **(Y)**

Leave sutures for 12-14 days

Remember that complex wounds should be referred to a hospital with a surgical unit or above (level III or IV institution)

LEVEL II INSTITUTIONS

The same general comments apply as mentioned under the lacerations of the face.

Follow the same management plan as in level I.

Absolute indications for transfer from level I, II, (III) institutions

1. Laceration with underlying fracture/head injury
2. Presence of significant degloving
3. Associated scalp loss
4. Complex lacerations
5. Massive contamination
6. Presence of other injuries necessitating transfer

LEVEL III INSTITUTIONS

The same general comments with regard to the institution apply as mentioned under the lacerations of the face.

For the technique of suturing under local anaesthesia please refer to the account given under level I institutions.

The technique for suturing under general anaesthesia is the same as that under local anaesthesia with the exception of not having to infiltrate with lignocaine pre-operatively. However, you may infiltrate Bupivacaine, not exceeding recommended dose during surgery for post-operative pain relief.

Suturing under General Anaesthesia

Indications

- ✓ Large lacerations
- ✓ Contaminated lacerations
- ✓ Lacerations with degloving
- ✓ Unwilling patient (for local anaesthesia)

Be mindful of absolute indications for transfer as some of them may apply to your institution, too.

LEVEL IV INSTITUTIONS

The same general comments with regard to the institution apply as mentioned under the lacerations of the face.

The techniques of suturing under local anaesthesia and general anaesthesia are the same as applied to lower levels of institutions.

Suturing under General Anaesthesia

Indications

- ✓ Large/Complex lacerations
- ✓ Contaminated lacerations
- ✓ Lacerations with degloving
- ✓ Lacerations with scalp loss necessitating flap/skin grafting
- ✓ Unwilling patient (for local anaesthesia)

Holistic care by way of team effort and better overall results should be the aim at level IV.

Section 3 LACERATIONS OF THE NECK

LEVEL I INSTITUTIONS

The same general comments with regard to the institution apply as mentioned under the lacerations of the face.

Please note that indications for transfer are enumerated under level II.

1. Exclude obvious injuries to underlying structures, especially air passage, major vessels **(X)**. If present follow the relevant guidelines, if any **(X)**
2. Irrigate with Normal Saline **(X)** to wash away any loose particles of dirt and foreign bodies
3. Do not try to explore, or remove ingrained foreign bodies **(X)** if
 - a. Laceration/s are in the vicinity of major vessels, nerves or upper respiratory tract
 - b. You are not confident under the prevailing circumstances
4. Do not suture if anything more than skin and platysma are involved **(X)**, or if you are not sure of depth **(X)**
5. If you decide to suture refer the following **(X)**

Technique for suturing under local anaesthesia

Indications

- ✓ Superficial laceration/s
 - ✓ Single laceration
 - ✓ Simple laceration/s
-
- ◇ Use 2%Lignocaine/Adrenaline (diluted 1:1) **(Z)** for infiltration of laceration 1-2cm away from and parallel to edge **(X)**
 - ◇ Beware of maximum dose **(X)**
 - ◇ Inject subcutaneous **(X)**
 - ◇ Wait at least 2 minutes **(X)**
 - ◇ Make sure it works **(X)**
 - ◇ Trim the edge 1-2 mm into uninjured tissue **(X)** using scalpel **(Z)** or sharp, strong scissors **(Z)**
 - ◇ Debride the surface with fine scissors paying attention to ingrained foreign bodies **(X)**
 - ◇ Secure haemostasis **(X)** using appropriate means
 - ◇ Use 5/0 **(Y)** non-absorbable (nylon, polypropylene or silk) **(X)** preferably on cutting eyeless needle **(Y)**
 - ◇ Catch all layers of skin that are lacerated **(X)**
 - ◇ Space stitches evenly **(Y)**
 - ◇ Try to avoid vertical mattress if possible, to prevent ischaemia of the edge **(Y)**
 - ◇ Exert pressure on sutured wound for up to 5mn **(Z)**
 - ◇ Apply an appropriate dressing **(X)**

Leave sutures for 5-7 days

Remember that complex wounds should be referred to a hospital with a surgical unit or above (level III or IV institution)

LEVEL II INSTITUTIONS

The same general comments with regard to the institution apply as mentioned under the lacerations of the face.

Follow the same management plan as indicated under level I.

Absolute indications for transfer from level I, II, (III) institutions

1. Lacerations in the vicinity of major blood vessels and nerves, spine, and airway
2. Exposure of major blood vessels and nerves, spine, and airway
3. Deep lacerations in the anterior triangle of the neck
4. Multiple parallel lacerations
5. Any suspicion of brachial plexus involvement

LEVEL III INSTITUTIONS

The same general comments with regard to the institution apply as mentioned under the lacerations of the face.

For the technique of suturing under local anaesthesia please refer to the account given under level I institutions.

The technique for suturing under general anaesthesia is the same as that under local anaesthesia with the exception of not having to infiltrate with lignocaine pre-operatively. However, you may infiltrate Bupivacaine, not exceeding recommended dose during surgery for post-operative pain relief.

Suturing under General Anaesthesia

Indications

- ✓ Large/Complex/Parallel lacerations
- ✓ Contaminated lacerations
- ✓ Deep lacerations (Anterior/Posterior triangle)
- ✓ Lacerations with damage to underlying structures
- ✓ Unwilling patient (for local anaesthesia)

Be mindful of absolute indications for transfer as some of them may apply to your institution, too.

LEVEL IV INSTITUTIONS

The same general comments with regard to the institution apply as mentioned under the lacerations of the face.

The techniques of suturing under local anaesthesia and general anaesthesia are the same as applied to lower levels of institutions.

Holistic care by way of team effort and better overall results should be the aim at level IV.

Section 4 - LACERATIONS OF THE TORSO

LEVEL I INSTITUTIONS

The same general comments with regard to the institution apply as mentioned under lacerations of the face.

Please note that indications for transfer are enumerated under level II.

1. Exclude obvious injuries to underlying body cavities **(X)**. If present follow the relevant guidelines, if any **(X)**
2. Irrigate with Normal Saline **(X)** to wash away any loose particles of dirt and foreign bodies
3. Do not try to explore, or remove ingrained foreign bodies **(X)** if
 - a. Laceration/s seem to communicate deep
 - b. You are not confident under the prevailing circumstances
4. After thorough cleaning decide if you can suture at your hospital under local anaesthesia **(X)**
5. Do not suture if anything more than skin and superficial layers of muscle are involved **(X)**, or if you are not sure about depth **(X)**
6. If you decide to suture refer the following **(X)**

Technique for suturing under local anaesthesia

Indications

- ✓ Superficial laceration/s
 - ✓ Single laceration
 - ✓ Simple laceration/s
-
- a. Use 2%Lignocaine/Adrenaline (diluted 1:1) **(Z)** for infiltration of laceration 1-2cm away from edge **(X)**
 - b. Inject subcutaneous **(X)**
 - c. Wait a couple of minutes **(X)**
 - d. Make sure it works **(X)**
 - e. Trim the edge 1-2 mm into uninjured tissue **(X)** using scalpel **(Z)** or sharp, strong scissors **(Z)**
 - f. Debride the surface with fine scissors paying attention to ingrained foreign bodies **(X)**
 - g. Secure haemostasis **(X)**
 - h. Approximate any divided muscle/fascia with 4/0 nylon/polypropylene preferably on round bodied needle **(Y)**
 - i. Use 4/0 **(Y)** non-absorbable (nylon, polypropylene or silk) **(X)** preferably on cutting eyeless needle **(Y)** for skin
 - j. Catch all layers of skin that are lacerated **(X)**
 - k. Space stitches evenly **(Y)**
 - l. Try to avoid vertical mattress if possible, to prevent ischaemia of the edge **(Y)**
 - m. Exert pressure on sutured wound for up to 5mn **(Z)**
 - n. Apply a simple dressing **(Y)**, or a pressure dressing if needed **(X)**

Leave sutures for 10 (front)-12 (back) days

Remember that complex wounds should be referred to a hospital with a surgical unit or above (level III or IV institution)

LEVEL II INSTITUTIONS

The same general comments with regard to the institution apply as mentioned under lacerations of the face.

Follow the same management plan as indicated under level I.

Absolute indications for transfer from level I, II, (III) institutions

1. Lacerations involving structures deeper than superficial layer of muscle/fascia
2. Seemingly deep lacerations in the lower abdomen/groin
3. Multiple parallel lacerations
4. Involvement of body cavities
5. Presence of massive contamination
6. Presence of significant degloving

LEVEL III INSTITUTIONS

The same general comments with regard to the institution apply as mentioned under the lacerations of the face.

For the technique of suturing under local anaesthesia please refer to the account given under level I institutions.

The technique for suturing under general anaesthesia is the same as that under local anaesthesia with the exception of not having to infiltrate with lignocaine pre-operatively. However, you may infiltrate Bupivacaine, not exceeding recommended dose during surgery for post-operative pain relief.

Suturing under General Anaesthesia

Indications

- ✓ Large/Complex/Parallel/degloving lacerations
- ✓ Contaminated lacerations
- ✓ Deep lacerations
- ✓ Lacerations with involvement of body cavities
- ✓ Unwilling patient (for local anaesthesia)

LEVEL IV INSTITUTIONS

The same general comments with regard to the institution apply as mentioned under the lacerations of the face.

The techniques of suturing under local anaesthesia and general anaesthesia are the same as applied to lower levels of institutions.

Section 5- LACERATIONS OF THE LIMBS

LEVEL I INSTITUTIONS

The same general comments with regard to the institution apply as mentioned under lacerations of the face.

Please note that indications for transfer are enumerated under level II.

1. Exclude obvious injuries to the underlying structures **(X)** such as
 - major vessels
 - nerves
 - tendons

If present follow the relevant guidelines, if any **(X)**

2. Make a habit to verify the above as follows (see box –practical hints)– some basic tests that do not need expertise to perform.
3. Irrigate with Normal Saline **(X)** to wash away any loose particles of dirt and foreign bodies
4. After thorough cleaning decide if you can suture at your hospital under local anaesthesia **(X)**
5. In general, do not suture if anything more than skin and deep fascia are involved **(X)**, or if you are not sure about depth **(X)**
6. Particularly, do not suture lacerations beyond wrist or ankle unless you are absolutely sure those are only skin deep **(X)**

Practical Hints

1. Look at the skin colour distal to laceration.
 - a. Dark discolouration or extreme pallor is suggestive of vascular injury/compromise
2. Compare the skin temperature between injured and uninjured limbs/digits.
 - b. Significant reduction in temperature is suggestive of vascular injury/compromise
3. Ask patient about his sensation.
 - c. Abnormal sensation/loss of sensation (as you touch) in the distribution of a known nerve (territory) e.g. radial/ulnar half of a finger is suggestive of nerve injury
4. Check gross movements while being considerate about pain.
 - d. Loss of function in muscle groups is suggestive of major nerve injury (e.g. finger flexors-median, ulnar, finger extensors-posterior interosseous).
5. Compare positions of injured and uninjured limbs, volar and dorsal aspects, in flexion and extension paying attention to joints.
 - e. Any deviation from normal (lack of flexed attitude, loss of extension) is suggestive of tendon injury
6. Proximity of a deep laceration to a known nerve/tendon should arouse strong suspicion of injury to that structure.

7. If you decide to suture refer the following **(X)**

Technique for suturing under local anaesthesia

Indications

- ✓ Superficial laceration/s
 - ✓ Single laceration
 - ✓ Simple laceration/s
- a. Use 2%Lignocaine/Adrenaline (diluted 1:1) **(Z)** for infiltration of laceration 1-2cm away from edge **(X)** except in fingers
 - b. Inject subcutaneous **(X)**
 - c. Wait at Least 2 minutes **(X)**
 - d. Substitute with plain Lignocaine in fingers/toes **(X)**. use 2-3cc 1% Lignocaine to achieve digital block by injecting into distal web space **(N)**
 - e. Wait 5 mn **(X)**.
 - f. Make sure it works **(X)**
 - g. Use Pneumatic Tourniquet **(Z)** if available for periods up to 15 mn - usually well tolerated. Achieve cuff pressure 100mmHg above systolic BP **(Z)**.
 - h. Use finger tourniquet (rubber band, glove finger, ribbon gauze etc) *only with extreme caution* **(X)**. Apply lowest pressure needed for bloodless field. Fix haemostat/artery forceps so that you will remember to remove tourniquet at the end of suturing **(X)**.
 - i. Trim the edge 1-2 mm into uninjured tissue **(X)** using scalpel **(Z)** or sharp, strong scissors **(Z)**
 - j. Debride the surface with fine scissors paying attention to ingrained foreign bodies **(X)**,

- k. Beware of important structures such as nerves, blood vessels, tendons **(X)**.
- l. Secure haemostasis **(X)** by appropriate methods.
- m. Never use monopolar cautery in digits **(X)**
- n. Use 4/0 **(Y)** non-absorbable (nylon, polypropylene or silk) **(X)** preferably on cutting eyeless needle **(Y)**
- o. Catch all layers of skin that are lacerated **(X)**
- p. Space stitches evenly **(Y)**
- q. Try to avoid vertical mattress if possible, to prevent ischaemia of the edge **(Y)**, and unsightly scars **(Y)**
- r. Exert pressure on sutured wound for up to 5mn **(Z)**
- s. Apply a simple dressing **(Y)**
- t. Be very careful not to cause tourniquet effect if you need to apply a pressure dressing **(X)** using padding and crepe

Leave sutures for 12 days

Remember that complex wounds should be referred to a hospital with a surgical unit or above (level III or IV institution)

- 8. Make sure limb is elevated all night, and most of the time during the day for 2-3 days, starting immediately after suturing **(X)**

LEVEL II INSTITUTIONS

The same general comments with regard to the institution apply as mentioned under lacerations of the face.

Follow the same management plan as in level I.

Absolute indications for transfer from level I, II, (III) institutions

1. Lacerations involving structures deeper than deep fascia
2. Presence of obvious vascular, nerve, tendon injury
3. Multiple parallel lacerations
4. Presence of massive contamination
5. Presence of skin/tissue loss
6. Presence of significant degloving

LEVEL III INSTITUTIONS

The same general comments with regard to the institution apply as mentioned under the lacerations of the face.

For the technique of suturing under local anaesthesia please refer to the account given under level I institutions.

The technique for suturing under general anaesthesia is the same as that under local anaesthesia with the exception of not having to infiltrate with lignocaine pre-operatively. However, you may infiltrate Bupivacaine, not exceeding recommended dose during surgery for post-operative pain relief.

For lacerations of the hand wrist block comes in very handy. Similarly, for lacerations of foot ankle block is very useful. You may use these blocks for most cases which would otherwise need general anaesthesia. Alternatively, you may give these for post operative pain relief if you decide to suture under general anaesthesia. See *technique of wrist block* in the wall chart.

Lower limb lacerations may be done under spinal anaesthesia as well.

Suturing under General Anaesthesia

Indications

- ✓ Large/Complex/Parallel/degloving lacerations
- ✓ Contaminated lacerations
- ✓ Deep lacerations
- ✓ Lacerations with involvement of nerves, tendons
- ✓ Lacerations where vascular surgery is needed
- ✓ Unwilling patient (for local anaesthesia)

According to your judgment you may substitute GA with regional blocks for some of these cases.

LEVEL IV INSTITUTIONS

The same general comments with regard to the institution apply as mentioned under the lacerations of the face.

The techniques of suturing under local anaesthesia and general anaesthesia are the same as applied to lower levels of institutions.

The comments about regional blocks are more relevant here as it is more likely to have some one with expertise in giving these at level IV institutions compared to the lower levels. So, be freer to use these techniques to the advantage of patients and doctors alike.

Refer accompanying poster for technique of wrist block.

Suturing under General Anaesthesia

Indications

- ✓ Large/Complex/Parallel/degloving lacerations
- ✓ Contaminated lacerations
- ✓ Deep lacerations
- ✓ Lacerations with involvement of nerves, tendons
- ✓ Lacerations where vascular surgery is needed
- ✓ Lacerations where reconstructive surgery (e.g. flap cover) is needed
- ✓ Unwilling patient (for local anaesthesia)

According to your judgment you may substitute GA with regional blocks for some of these cases.