Practical Procedures in General Practice is an essential guide for any GP looking to establish a minor surgery service, and covers:

- setting up a minor surgery clinic
- advice on local funding guidelines
- patient selection and assessment
- basic operative procedures
- joint injections
- long-term contraception
- specialist procedures such as carpal tunnel decompression and non-scalpel vasectomy which may be undertaken by GPs with a special interest

If you are one of the many GPs looking to reduce referrals, increase practice income and provide a better service to your patients by developing a minor surgery DES, then Practical Procedures in General Practice will help.

Pre-publication reviews:

GP Registrar: “A good introduction to practical procedures in general practice. Straightforward explanations complemented by clear illustrations make this book very user-friendly.”

GP Principal: “This book covers a broad range of procedures and gives clear guidance about clinical indications for these. It is well illustrated and the text is easy to follow.”

GP with an interest in Minor Surgery: “Even as an experienced GP performing minor ops this book is very useful revision. There are some interesting suggestions of areas to explore and consider developing within the practice.”

Note from the publisher: This book will help you to understand what is possible and to remind you how to do the procedures correctly. It is not a substitute for gaining relevant practical experience through expert supervision or at a specialist training course, such as one of those run by the RCGP.

www.scionpublishing.com
PRACTICAL PROCEDURES

IN GENERAL PRACTICE
Other titles from Scion

For more information see www.scionpublishing.com
PRACTICAL PROCEDURES

IN GENERAL PRACTICE

Suneeta Kochhar
MBBS, MRCGP (2010), MRCS (2007), DRCOG, DFSRH
GP in East Sussex
# Contents

Preface ......................................................................................................................... ix  
About the author........................................................................................................... xi

## Chapter 1: Introduction to minor surgery

- Specification for a Direct Enhanced Service in minor surgery ....................... 2  
- Pre-requisites........................................................................................................... 3  
  - Facilities.............................................................................................................. 3  
  - Resuscitation equipment ................................................................................... 4  
  - Cautery .............................................................................................................. 4  
  - Requirement for an assistant .......................................................................... 4  
  - Infection control ............................................................................................... 5  
- Assessing suitability for minor surgery ............................................................... 5  
- Consent ................................................................................................................. 8  
- Audit .................................................................................................................... 8  
- Competence ........................................................................................................ 9  
- Skin preparation .................................................................................................. 9  
- Local anaesthesia ............................................................................................... 10  
  - Injection ........................................................................................................... 10  
  - Field block ..................................................................................................... 11  
  - Topical application ......................................................................................... 12  
  - Adverse effects .............................................................................................. 12  
- Surgical equipment ............................................................................................. 12  
- Sutures ................................................................................................................ 15  
- Surgical techniques ............................................................................................ 16  
  - Simple interrupted suture ......................................................................... 16  
  - Intradermal suture ....................................................................................... 19  
  - Running suture .............................................................................................. 19  
  - Mattress sutures ............................................................................................ 20  
  - Suture removal ............................................................................................... 21  
  - Complications ............................................................................................... 21

## Chapter 2: Operative procedures in minor surgery

- Incision and drainage of abscesses .................................................................. 24  
- Procedure for incision and drainage of abscess ............................................. 24  
- Aftercare ........................................................................................................... 25  
- Hints and tips .................................................................................................... 25
Excision of epidermal cysts ................................................................. 26
Procedure for excision of epidermal cyst ................................. 26
Aftercare ......................................................................................... 27
Hints and tips .................................................................................. 27
Excision of lipomas ............................................................................. 29
Procedure for excision of lipoma ................................................ 29
Aftercare ......................................................................................... 30
Hints and tips .................................................................................. 30
Excision of pigmented skin lesions – seborrhoeic keratoses and naevi .................................................................................. 31
Procedure for elliptical excisions of pigmented skin lesions .... 31
Aftercare ......................................................................................... 32
Hints and tips .................................................................................. 32
Basal cell carcinoma in primary care ........................................... 33
Ingrown toenails ............................................................................... 34
Procedure for removal of ingrown toenails ............................ 34
Aftercare ......................................................................................... 35
Hints and tips .................................................................................. 35
Shave excisions and curettage ....................................................... 36
Shave excisions ............................................................................... 36
Punch biopsy .................................................................................... 36
Curettage .......................................................................................... 36
Cryotherapy ...................................................................................... 37
Viral warts ....................................................................................... 37
Solar and seborrhoeic keratoses .................................................. 38
Other considerations ...................................................................... 38

**Chapter 3: Joint injections**

General principles ........................................................................... 40
Evidence for joint injections .......................................................... 40
How often to inject ......................................................................... 41
Contraindications .......................................................................... 41
Risks and benefits of the procedure ............................................ 41
Steroid injections ............................................................................. 42
Soft tissue and small joint injections .......................................... 43
Large joint injections .................................................................... 43
Practical considerations ............................................................... 44
Aftercare ......................................................................................... 45
### Chapter 4: Steroid injections in the upper limb

- Shoulder injection ................................................................. 48
- Elbow, wrist and hand injection .............................................. 49
- Posterior approach to shoulder .............................................. 50
- Anterior approach to shoulder .............................................. 52
- Lateral or subacromial approach to shoulder ....................... 54
- Acromioclavicular joint injection ........................................... 56
- Injection for bicipital tendinitis ............................................. 58
- Injection for tennis elbow (lateral epicondylitis) .................... 60
- Injection for golfer’s elbow (medial epicondylitis) ................... 62
- Injection for olecranon bursitis ............................................ 64
- Injection for carpal tunnel syndrome .................................. 66
- Injection for De Quervain’s tenosynovitis ............................. 68
- Injection for first carpometacarpal joint osteoarthritis .......... 70
- Injection for trigger finger .................................................... 72

### Chapter 5: Steroid injections in the lower limb

- Injection for trochanteric bursitis ......................................... 76
- Injection for meralgia paraesthetica ..................................... 78
- Injection for iliotibial band syndrome .................................. 80
- Injection for the knee joint .................................................. 82
- Injection for the ankle joint .................................................. 84
- Injection for posterior tibial tendinitis ................................. 86
- Injection for tarsal tunnel syndrome ................................... 86
- Injection for plantar fasciitis ............................................... 86

### Chapter 6: Long-acting reversible methods of contraception

- Pre-requisites .......................................................................... 88
  - Subdermal contraceptive implant techniques ....................... 89
  - Intrauterine techniques ....................................................... 89
- Subdermal contraceptive implant (Nexplanon®) ....................... 89
  - Nexplanon® insertion ....................................................... 90
  - Nexplanon® removal ....................................................... 92
- Intrauterine system (Mirena®) .............................................. 92
  - Mirena® coil insertion ..................................................... 93
  - Mirena® coil removal ..................................................... 94
- Intrauterine devices ............................................................. 94
Chapter 7: Other procedures

Nasal cautery ................................................................. 96
Microsuction of the external auditory canal ................. 96
Carpal tunnel decompression.................................. 96
  The procedure ................................................................. 97
No scalpel vasectomy ................................................ 97
  The procedure ................................................................. 98
  Accreditation ............................................................... 99
Gynaecological procedures ........................................... 99

References and Further reading .................................. 101

Appendices
Appendix 1: Consent to minor surgery form ................ 103
Appendix 2: Patient information leaflet ....................... 107
Appendix 3: Consent to insertion of contraceptive
implant form ............................................................... 109

Index ............................................................... 113
CHAPTER 4

Steroid injections in the upper limb
Shoulder injection

Shoulder pain may be caused by a range of clinical problems: rotator cuff tendinitis, supraspinatus tendinitis causing impingement, bicipital tendinitis, frozen shoulder or adhesive capsulitis, subacromial bursitis and gleno-humeral osteoarthritis, as well as osteoarthritis of the acromioclavicular joint. Neck examination should be performed as part of an assessment of the shoulder because referred pain is part of the differential diagnosis.

Shoulder joint injections should enter the joint capsule, but do not necessarily need to be in the glenohumeral joint space, which is narrow and may be difficult to access. Shoulder joint injections may be performed using the posterior, anterior or lateral approach. The posterior approach to the shoulder is the easiest injection technique because the joint space is wider.

### Featured approaches

<table>
<thead>
<tr>
<th>Approach</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Posterior approach to shoulder</td>
<td>50–51</td>
</tr>
<tr>
<td>Anterior approach to shoulder</td>
<td>52–53</td>
</tr>
<tr>
<td>Lateral or subacromial approach to shoulder</td>
<td>54–55</td>
</tr>
<tr>
<td>Acromioclavicular joint injection</td>
<td>56–57</td>
</tr>
<tr>
<td>Injection for bicipital tendinitis</td>
<td>58–59</td>
</tr>
</tbody>
</table>
Elbow, wrist and hand injection

Elbow injections may be used in the treatment of tennis elbow, golfer’s elbow and olecranon bursitis. Wrist injections can be used in the treatment of carpal tunnel syndrome and De Quervain’s tenosynovitis. Injections into the hand may be used to treat carpometacarpal joint osteoarthritis and trigger finger.

<table>
<thead>
<tr>
<th>Featured approaches</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Injection for tennis elbow (lateral epicondylitis)</td>
<td>60–61</td>
</tr>
<tr>
<td>Injection for golfer’s elbow (medial epicondylitis)</td>
<td>62–63</td>
</tr>
<tr>
<td>Injection for olecranon bursitis</td>
<td>64–65</td>
</tr>
<tr>
<td>Injection for carpal tunnel syndrome</td>
<td>66–67</td>
</tr>
<tr>
<td>Injection for De Quervain’s tenosynovitis</td>
<td>68–69</td>
</tr>
<tr>
<td>Injection for first carpometacarpal joint osteoarthritis</td>
<td>70–71</td>
</tr>
<tr>
<td>Injection for trigger finger</td>
<td>72–73</td>
</tr>
</tbody>
</table>
Posterior approach to shoulder

Technique
The patient is usually seated with the arm at their side and the shoulder externally rotated. The needle is inserted 2–3 cm below the posterolateral aspect of the acromion and medial to the head of the humerus (Figs 4.1 and 4.2). The needle is advanced in the direction of the coracoid process anteriorly.

Suggested doses
- Triamcinolone acetonide 40 mg with 4 ml of 1% lidocaine (total volume 5 ml), or
- Triamcinolone acetonide 10 mg/ml (in larger shoulders where more volume may be required) with 4 ml of 1% lidocaine (total volume 8 ml).
- Delivery: use 21G (green) needle, with a suggested needle length of 40 mm.

Aftercare
Stretching exercises, as pain allows.
Chapter 4: Steroid injections in the upper limb

Figure 4.1: Posterior view of left shoulder.

Figure 4.2: Photograph to demonstrate posterior approach for shoulder injection. Lines show acromion process and head of humerus.
Anterior approach to shoulder

Technique

The patient is usually seated with the arm at their side and the shoulder externally rotated. The needle is inserted below the acromion process, medial to the head of the humerus and 1 cm lateral to the coracoid process (Figs 4.3 and 4.4). The needle is advanced posteriorly at an angle that is slightly superior and lateral.

Suggested doses

- Triamcinolone acetonide 40 mg with 4 ml of 1% lidocaine (total volume 5 ml), or
- Triamcinolone acetonide 10 mg/ml (in larger shoulders where more volume may be required) with 4 ml of 1% lidocaine (total volume 8 ml)
- Delivery: use 21G (green) needle, with a suggested needle length of 40 mm.

Aftercare

Stretching exercises, as pain allows.
Chapter 4: Steroid injections in the upper limb

Figure 4.3: Anterior view of the left shoulder.

Figure 4.4: Anterior approach for shoulder injection. Lines show acromion process, head of humerus and coracoid process.
Lateral or subacromial approach to shoulder

Subacromial injection may be helpful for rotator cuff pathology, calcific tendinitis, subacromial bursitis and adhesive capsulitis. Subacromial injection may be helpful in differentiating between shoulder weakness caused by impingement (where shoulder strength improves post-injection) and a true rotator cuff tear (where there is no improvement in strength post-injection).

**Technique**

The patient is seated with the arm at their side, not externally rotated. The needle is inserted in the horizontal plane below the acromion process in a slightly posterior direction along the line of the supraspinous fossa (Figs 4.5 and 4.6).

**Suggested doses**

- Triamcinolone acetonide 20 mg with 4.5 ml of 1% lidocaine (total volume 5 ml).
- Delivery: use 23G (blue) needle, with a suggested needle length of 30 mm.

**Aftercare**

It is advisable to avoid arm elevation above the shoulder for 2 weeks. Mobilisation exercises may be started, as pain allows.
Chapter 4: Steroid injections in the upper limb

Figure 4.5: (a) Anterior view of left shoulder showing subacromial bursa, and (b) lateral view of the left shoulder.

Figure 4.6: Lateral approach for shoulder injection. Lines show acromion process, head of humerus and coracoid process.
Acromioclavicular joint injection

Supraspinatus tendinitis may be demonstrated if the patient abducts their arm to 90° and pain is reproduced when resistance is applied. If pain is experienced from 90 to 180° this may be suggestive of acromioclavicular osteoarthritis. Furthermore, there is likely to be tenderness on palpation of the joint in acromioclavicular osteoarthritis.

Technique

The patient may be seated or supine for this joint injection; if the patient is seated with their affected arm hanging down, this opens up the joint space. The joint space should be palpated and the needle advanced either from an anterior or superior position (Figs 4.7 and 4.8). Acromioclavicular joint injection may be difficult if there is obstruction by an osteophyte.

Suggested doses

A small volume is used to inject the acromioclavicular joint because the space is small when compared to that of the shoulder.

- Triamcinolone acetonide 10 mg with 0.75 ml 2% lidocaine (total volume 1 ml).
- Delivery: use 25G (orange) needle, with a suggested needle length of 16 mm.

Aftercare

The affected shoulder may be rested for a week before gentle mobilisation of the joint.
Figure 4.7: Anterior view of right shoulder with acromioclavicular joint injection site shown.

Figure 4.8: Acromioclavicular joint injection.
Injection for bicipital tendinitis

If shoulder pain is experienced on forearm flexion and supination with the elbow bent at 90° against resistance, this is suggestive of bicipital tendinitis or inflammation of the long head of the biceps muscle. Moreover, there will be tenderness on palpation between the greater and lesser tubercles of the head of the humerus, i.e. overlying the bicipital groove.

Technique

The arm is externally rotated and the bicipital groove palpated, the needle is inserted at the point of maximal tenderness and directed upwards at 30°. The area in and around the bicipital groove is infiltrated (Figs 4.9 and 4.10). Injecting under resistance should be avoided to reduce the risk of tendon rupture.

Suggested doses

- Triamcinolone acetonide 10 mg with 0.75 ml of 2% lidocaine (total volume 1 ml).
- Delivery: use 23G (blue) needle, with suggested needle length of 25 mm.

Aftercare

Relative rest is advised for a week followed by a return to usual activity.
**Figure 4.9:** Anterior view of left shoulder showing injection site for bicipital tendinitis, between the greater and lesser tuberosities of the humerus.

**Figure 4.10:** Injection site for bicipital tendinitis. Lines show acromion process, head of humerus, coracoid process and bicipital groove.
Injection for tennis elbow (lateral epicondylitis)

Pain is localised to the lateral epicondyle of the humerus in tennis elbow.

**Technique**

The patient may be seated or supine with the elbow flexed to 45° and the wrist pronated. The needle is inserted at the lateral epicondyle at the point of maximal tenderness on palpation, until the level of the periosteum (Figs 4.11 and 4.12). The needle is fanned subcutaneously at other points of tenderness, i.e. without the need to re-insert the needle. Local anaesthesia may be infiltrated initially in areas of tenderness, followed by steroid injection, or they may be co-administered. Lipodystrophy may be caused if there is inadvertent subcutaneous injection of steroid.

**Suggested doses**

- Triamcinolone acetonide 10 mg with 0.75 ml of 2% lidocaine (total volume 1 ml).
- Delivery: use 25G (orange) needle, with a suggested needle length of 16 mm.

**Aftercare**

Relative rest is advised for 1–2 weeks, and the activity which caused the tendinopathy should be avoided. Lifting is performed with the palm facing upwards so that the flexor muscles are used instead of the extensors.
Chapter 4: Steroid injections in the upper limb

Figure 4.11: Lateral view of the left elbow showing the injection site for lateral epicondylitis.

Figure 4.12: Injection site for tennis elbow at lateral epicondyle.
Injection for golfer’s elbow (medial epicondylitis)

Pain is localised to the medial epicondyle of the humerus in golfer’s elbow.

Technique

The patient may be seated or supine. The arm should be abducted, the elbow flexed to 45° and the hand supinated. The needle is inserted at the medial epicondyle at the point of maximal tenderness on palpation, until the level of the periosteum (Figs 4.13 and 4.14). The needle is fanned subcutaneously at other points of tenderness, taking care to avoid the ulnar nerve which is posterior to the medial epicondyle. If there is inadvertent contact with the ulnar nerve, the patient will complain of paraesthesia and the needle should be repositioned.

Suggested doses

- Triamcinolone acetonide 10 mg with 0.75 ml of 2% lidocaine (total volume 1 ml).
- Delivery: use 25G (orange) needle, with a suggested needle length of 16 mm.

Aftercare

Relative rest is advised for 1–2 weeks, followed by stretching and strengthening exercises.
Figure 4.13: Medial view of right elbow showing injection site for medial epicondylitis.

Figure 4.14: Injection site for golfer's elbow at medial epicondyle.
Injection for olecranon bursitis

The olecranon bursa is superficial to the olecranon process and extra-articular to the elbow joint. A needle may easily be inserted into the olecranon bursa if aspiration is required to relieve pain and swelling. Steroid injection may also be helpful.

Technique

The injection is performed with the arm flexed as much as possible (Figs 4.15 and 4.16). The needle is inserted at the point of maximal fluctuance. A pressure dressing is applied post-procedure.

Suggested doses

- Triamcinolone acetonide 20 mg with 1.5 ml of 2% lidocaine (total volume 2 ml).
- Delivery: use 23G (blue) needle, with a suggested needle length of 25 mm.

Aftercare

Relative rest is advised for a week, followed by a return to usual activity. Leaning on the affected elbow should initially be avoided.
Chapter 4: Steroid injections in the upper limb

Figure 4.15: Lateral view of right elbow showing injection site for olecranon bursitis.

Figure 4.16: Injection site for olecranon bursitis.
Injection for carpal tunnel syndrome

Steroid injection is performed with the palm facing upwards. Local anaesthesia is not generally used because, in this case, it will exacerbate symptoms of carpal tunnel syndrome. It should be noted that inadvertent steroid injection into the median nerve may cause a chronic paraesthesia and therefore only experienced clinicians should attempt steroid injections to alleviate carpal tunnel syndrome.

Technique

The wrist is dorsiflexed to 30°. The needle is inserted at 30° on the ulnar side of the palmaris longus tendon at the proximal wrist crease (Figs 4.17 and 4.18). It is aimed towards the tip of the ring finger. In the absence of the palmaris longus tendon, the needle is inserted on the ulnar side of the midline of the wrist. The median nerve lies posterior to the palmaris longus tendon at the wrist in up to 90% of patients; if there is pain or paraesthesia on needle insertion this suggests contact with the median nerve and so the needle should be withdrawn and re-inserted. To avoid inadvertent injection into a tendon, the injection should not be given against resistance.

Suggested doses

- Triamcinolone acetonide 20 mg (total volume 0.5 ml).
- Delivery: use 23G (blue) needle, with a suggested needle length of 30 mm.

Aftercare

Rest is advised for one week, followed by a return to usual activity.
Chapter 4: Steroid injections in the upper limb

Figure 4.17: Injection site for carpal tunnel syndrome in right hand.

Figure 4.18: Carpal tunnel syndrome injection site. Lines show palmaris longus tendon, proximal wrist crease and line towards ring finger.
Injection for De Quervain’s tenosynovitis

De Quervain’s tenosynovitis affects the abductor pollicis longus and extensor pollicis brevis tendons where the radial styloid is traversed. Pain is reproduced when the patient makes a fist with the thumb in their palm and ulnar-deviates their flexed wrist.

Technique

The needle is inserted proximal to the first metacarpal on the extensor surface at 30°, along the line of the tendon distal to the point of maximal tenderness (Figs 4.19 and 4.20). The injection is administered in the tendon sheath. The effect of injecting steroid into the sheath should become apparent visually as a bulge is produced. Care should be taken to avoid inadvertent injection into the tendon itself, and the risk of this is minimised by avoiding injecting against resistance.

Suggested doses

- Triamcinolone acetonide 10 mg with 0.75 ml of 2% lidocaine (total volume 1 ml).
- Delivery: use 25G (orange) needle, with a suggested needle length of 16 mm.

Aftercare

The hand should be rested for one week and the activity that triggered the tenosynovitis avoided. Strengthening exercises may be helpful thereafter.
Chapter 4: Steroid injections in the upper limb

Figure 4.19: Injection site for De Quervain's tenosynovitis.

Figure 4.20: De Quervain's tenosynovitis injection site.
Injection for first carpometacarpal joint osteoarthritis

Osteoarthritis of the first carpometacarpal joint presents with localised tenderness on thumb abduction and extension.

**Technique**

The thumb should be tucked into the palm; the joint line on the lateral aspect of the thumb is palpated (*Figs 4.21 and 4.22*). Traction can be applied to the thumb to further open the joint space. The abductor pollicis tendon is identified to avoid inadvertent injection into this. The joint space is small so only a small volume of steroid is injected.

Interphalangeal joint injection may be considered for rheumatoid arthritis affecting the small joints of the hand.

**Suggested doses**

- Triamcinolone acetonide 10 mg with 0.75 ml of 2% lidocaine (total volume 1 ml).
- Delivery: use 25G (orange) needle, with a suggested needle length of 16 mm.

**Aftercare**

The thumb is taped using a spica technique for a few days in order to support the proximal metacarpophalangeal joint of the thumb. Gentle mobilisation is then advised.
Chapter 4: Steroid injections in the upper limb

Figure 4.21: Injection site for first carpometacarpal joint injection.

Figure 4.22: First carpometacarpal joint injection site. Lines show trapezium and base of first metacarpal.
Injection for trigger finger

Trigger finger is a tenosynovitis that may affect any of the flexor tendons.

Technique

The needle is inserted in the crease overlying the metacarpophalangeal joint and advanced proximally (Figs 4.23 and 4.24); this is particularly straightforward if a nodule can be felt in the palm of the hand because the needle can simply be advanced in the direction of this. Care must be taken to avoid inadvertent steroid injection into the tendon.

Suggested doses

- Triamcinolone acetonide 10 mg with 0.25 ml of 2% lidocaine (total volume 0.5 ml).
- Delivery: use 25G (orange) needle, with a suggested needle length of 16 mm.

Aftercare

Relative rest for a few days is advised and then usual activity may be resumed.
Chapter 4: Steroid injections in the upper limb

Figure 4.23: Injection site for trigger finger in the right hand.

Figure 4.24: Trigger finger injection site.