TYPES OF SCREW AND WAYS OF IDENTIFYING THEM

Things to look at when considering which type of screw is needed?

- Type of drive
- Shape of head
- Type of thread
- Type of point
- Length of screw
- Length of thread
- Colour of screw

Types of screw head and therefore screwdriver needed?

- Hex head
  - Has Allen key type socket on head, uses hex screwdriver
- Slot head
  - Has single slot head, uses flat blade screwdriver
- Cruciate head
  - Has cross head, uses + head screwdriver
**Shapes of screw head**

<table>
<thead>
<tr>
<th>Spherical Head</th>
<th>Conical Head</th>
<th>Threaded Conical Head</th>
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<tbody>
<tr>
<td>- Head is rounded</td>
<td></td>
<td></td>
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<tr>
<td>- Found in Cortical &amp; Cancellous screws</td>
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<tr>
<td>- Works with compression plates</td>
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<tr>
<td>- Found in Sherman self tapping screws</td>
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<tr>
<td>- Locking screws</td>
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<tr>
<td>- Screw thread on head engages locking plate</td>
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**Types of thread**

- Pitch is the distance between the ridges in a screw thread

- Cortical thread – fine & shallow thread
  Found in Cortical & Cortical Self tapping Screws

- Cancellous thread – deep & wide thread
  Found in cancellous screws full & part threaded

**Types of screw point – Self Tapping or Non-Self Tapping**

- All screws need a thread to engage in bone when they are tightened, which stops them pulling out.

- Either the screw cuts its own thread as it is driven in – self tapping screw

- Or a separate tap is used to cut the thread for a non self tapping screw

- Self tapping screw tips have 1 or more ‘flutes’ in the tip which cut the thread as the screw is driven in
• Some cancellous screws (4mm) have a self tapping ‘pigtail’ sharp point
• Non self tapping screws have a blunter, more rounded tip and no flutes

<table>
<thead>
<tr>
<th>Self Tapping</th>
<th>Non-Self Tapping</th>
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**Measuring Screws**

• 2 ways of measuring the length of a screw: -

• Sherman self tapping screws (ST codes) are measured from the top of the conical section of the head to the tip

• All other screws are measured from the top to tip – i.e the full length including the head

**Colour of Screw**

• The vast majority of screws are stainless steel
• The only exceptions are titanium screws
• These are coloured as a safety feature to distinguish them from stainless
• Mixing stainless & titanium implants in an op could be dangerous for the patient!
**Titanium**

**Stainless Steel**

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**Screw Identification Chart**

- **Drive shape**
  - Hex
  - Slotted or Cruciform

- **Threaded head**
  - Locking screw LS****
  - Flutes in tip
  - Blunt tip
  - Thread full length of shaft
  - Part smooth shaft section

- **Coarse thread**

- **Fine thread**

- **Coloured**
  - Titanium TICS****
  - Titanium TICS24**

- **Stainless**
  - Sherman ST****

- **Coloured**
  - Cortical self tapping CSST****
  - Standard Cortical CS****
  - Cancellous CAN**** or CNP****
  - Part threaded cancellous CNP****