



ORTHOPAEDIC
health group

Mr Justin Lade

MBBS FRACS FA OrthA

Phone: 03 9885 7773 Fax: 03 9885.2123

Email: info@orthopaedichealthgroup.com.au

Suite 1 / 330 High Street Ashburton Vic 3147

www.justinlade.com.au

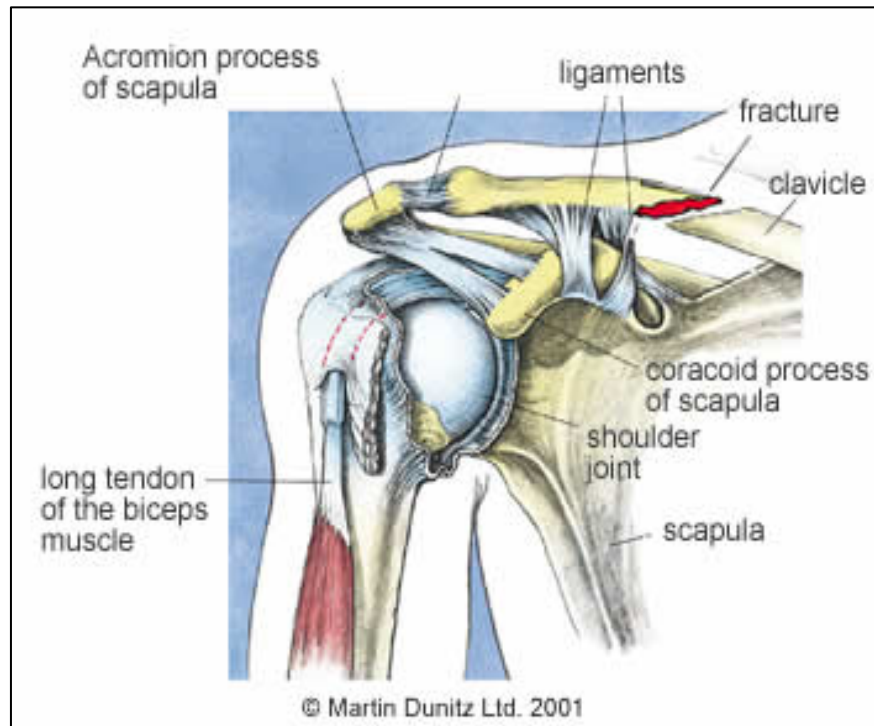
Open Reduction Internal Fixation “ORIF” Clavicle Patient Information

The following information is designed to answer some frequently asked questions regarding what to expect and what to do before and after your open reduction internal fixation “ORIF” Clavicle procedure. Clavicle fractures are the most common acute shoulder injuries with surgery taking between 1 – 2 hours to perform.

Mechanism of Injury

Most fractures occur as a result of a fall, landing on the tip of the shoulder, the out-stretched hand or bent elbow. The force of the fall is transmitted to the collar bone which can fracture if sufficient.

Most Clavicle (collarbone) fractures will heal without surgical intervention over a 4-6 week period of immobilisation and rest in a sling. However, there are some clinical situations in which the fracture may not heal, or the advantages of surgical intervention out-weigh the risks and expense of surgery.



Risk Factors

There are a few factors which may put you at higher risk of a broken collar bone. These include:

- Age** - people both very young and old are at a higher risk as their bones are not as strong as in teenage and adult years. . Approximately 2-5% of all adult fracture involve the clavicle
- Sports** - such as football, basketball, wrestling, rugby, hockey, snow boarding or skiing and virtually any contact sport, collision or high speed sport are among the most common causes associated with a broken collar bone.
- Osteoporosis** - can weaken the strength of the bone leading to an increased risk of fracture.



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Why Surgery

Surgery is indicated if the end of the fractured bone has pierced the skin or the ends are displaced so that the soft tissue is likely to be trapped between the ends of the bone, or when the fracture is pressing on vital adjacent structures like the large vessels and / or nerves. Occasionally, when the patient has multiple injuries, stabilising the fractured collar bone with surgery makes caring for the patient much easier and less painful.

In some cases, the location of the fracture along the clavicle is such that the ends of the bone are unlikely to appose each other and thus will often not heal without surgical intervention, or they will heal very slowly. Should the ends of the bone overlap significantly, there is still the chance that the clavicle will not heal and this can often result in significant shortening of the bone. This may be both cosmetically unacceptable to the patient, and / or associated with compromised function when using the shoulder for certain sports or physical activities. Other factors to consider include occupations and handedness as well the physiological age and health of the patient.

Surgical management

An incision is made over the fractured clavicle. There are numerous small nerves which cross the site of the incision and these cannot all be preserved, resulting in an area of numbness close to the incision.

Dissection is carried down to the fractured bone, exposing it sufficiently to enable the surgeon to reduce it anatomically & to hold it in place with a combination of a metal plate and screws. The wound is then closed in layers with sutures, which are dissolvable and the wound covered with a waterproof dressing which is left intact until your first review appointment and the arm placed in a sling for comfort.

The goal is to obtain a strong enough construct to enable the patient to begin moving the shoulder as soon as possible and as pain permits. If the construct is strong enough, movement will not adversely affect the fracture healing. In some cases a bone graft may be required to improve the fracture sites ability to heal.

Non operative management

This usually consists of a period of 6 – 8 weeks with the arm in a sling during which time the shoulder needs to be protected. Non-surgical treatment generally involves:

- **Arm support** - a simple sling to take the weight of the arm off the collar bone in the most important measure ensuring proper healing of the fracture
- **Pain medication** - may be prescribed in the early stages of recovery
- **Physiotherapy** - may be necessary to preserve the strength of the shoulder muscles ensuring a return to normal movements.



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Possible Complications

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Malunion - occurs when the fracture heals in an abnormal way such that the normal structure of the bone is disrupted. Usually it causes no pain or disability, however in severe cases, the malunion may require further treatment

Non-union - occurs when the two ends of the fracture fail to heal together. It is rarely seen in fractured clavicles

Deformity - there may be a lump of bone around the fracture site that you can feel and see which may cause symptoms

Vascular injury and bleeding - very large blood vessels lie behind the clavicle, and these can be damaged in a severe fracture. Whilst this is a life-threatening complication, it is very rare.

Infection - usually only involves the skin and will respond to antibiotics however if the infection spreads to deeper tissues, then this may need further surgery. Risk of infection is less than 1%

Delayed Wound healing - can sometimes occur & may produce a thickened scar

Numbness - Most patients will develop a small area of numbness on the chest wall below the incision site. This is due to the unavoidable division of some nerves in order to insert the plate and screws. The area of numbness tends to decrease over time and has no long term consequences.

Post operative pain - rarely lasts for more than 48 – 72 hours and is controllable with analgesics.

Post operative stiffness - generally improves as the fracture heals. Rarely a frozen shoulder may develop which could take between 12 – 18 months to completely resolve

Pneumothorax - as the surgery is close to the chest wall, there is a risk of penetration to the chest wall resulting in a collapsed lung. Signs of a Pneumothorax include difficulty breathing and moving and you need to report immediately to your surgeon / GP or the local hospital emergency department. This is extremely rare.

Symptoms related to the plate - Although this is rare it can result in the need to remove the plate once the fracture has healed. Usually the plate and screws are left inside indefinitely.



ORIF Clavicle “Collar – Bone” Post op questions

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It is important to remember that each patient is an individual and that recovery times vary as some patients move faster or slower based on the nature and severity of the fracture. Clavicle fractures vary in their severity and the time it takes to heal is based on factors such as comminution of the fracture (number of pieces involved), soft tissue damage, and the overall health of the patient.. You will be seen approximately 10-14 days after your surgery at which time you will begin gentle range of motion exercises. Typically you will be seen again at 6 weeks with new x-rays & then 12 weeks after surgery. Average time to complete healing after clavicle surgery is 12 weeks, but shoulder movement is quite advanced by 6 weeks.

What do I do when I go home from the hospital?

After any surgery you may be tired and drowsy for approximately 24 – 48 hours. It is important that you rest your arm as much as possible.

Sling and Ice Cuff?

The sling is worn for your comfort & protection. It should only be removed as directed. The ice cuff is worn to minimise swelling and pain and should be applied for the first 3 days, 20 minutes on and 3 hours off, for comfort.

If I have Pain?

Upon discharge from hospital you will receive a prescription for pain medication. Please take the pain medication as directed. Do not drink alcoholic beverages or drive if you are using pain medications and they should be taken with food or a glass of milk.

Communication

If at any stage you experience significant pain that is not relieved by resting the arm in the sling and taking the analgesics, shortness of breath, fever, chills, loss of power or sensation in the arm, significant swelling or colour changes in the arm, contact my office immediately on 03 9885.7773.

Will I have swelling / redness, bruising or discharge following surgery?

A dressing will be applied to your incision & this may become moist from blood or drainage and this is not a cause for alarm. However, if the drainage soaks through the dressing please call the office immediately.

What activity/s am I allowed to do?

Initially, the arm should be maintained in the sling at all times (even whilst in bed), except for three times per day when you perform the pendulum and elbow motion exercises & when showering. Once the dressing has been removed and the wound is healed, more range of movement exercises will be given. Strengthening might begin as early as six (6) weeks after surgery providing healing is evident. No contact sports for at least 4-6 months

