



Merivale Hand Clinic

Hand Therapy Associates



PHYSIOTHERAPISTS - OCCUPATIONAL THERAPISTS



CYCLING INJURIES - THE STATS!

Cycling as a sport and recreational activity has increased in popularity over recent years. As a consequence of increased participation, the number of cycling related injuries has also increased.

Cycling injuries in the lower arm can occur for a number of reasons. Commonly, upper limb injuries result from sustained hand contact with the handle bars to control the bicycle or as a result of a fall with the hand contacting the ground (or another object) to control the fall.

In the year ended June 2009, ACC recorded 4321 new hand (distal to the shoulder) injury claims whilst cycling, an increase from the 2914 claims in the same period ending June 2004 (excluding solely bulk funded claims). The cost of these claims rose from \$1.582 million to nearly \$4 million (excluding bulk funded health costs). Open wounds/abrasions and contusions accounted for nearly 42% of reported injuries, sprains and fractures each accounted for 25% with the remainder accounted for by tendon ruptures, nerve injury, tenosynovitis, epicondylosis, fracture dislocation, dislocations and other injuries such as blisters and splinters. 'Gradual onset injuries' such as ulnar and median nerve neuropathy, medial and lateral epicondylosis and trigger thumb were represented in the ACC statistics, but were all uncommon compared to traumatic injury.



CLINIC LOCATIONS

Merivale

Moorhouse

Kaiapoi

Ferrymead

All Clinics

- **ACC contracted**
- **No co-payment**
- **Splinting costs covered**

ACC data 'Hand injuries sustained while cycling (Road and Mountain biking) in 2009 compared with 2004' provided by Stephanie Julian, Senior Media Relations Advisor, ACC.

Merivale Hand Clinic Ltd

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Common Diagnoses managed by Hand Therapists include:

- Fractures
- Arthritis
- Nerve Injury
- Joint Sprains
- Tendon Injuries
- Tendinitis
- OOS
- Muscle Strains
- Nerve Compressions
- Amputations
- Hand Surgery Rehabilitation

Hand Therapists are highly skilled in evaluating:

- Wounds & Scars
- Oedema
- Sensation
- Pain
- Range of Motion
- Strength & Endurance
- Activities of daily living & vocational areas



CYCLING INJURIES - THE SET UP!

Hand, neck and shoulder discomfort is generally caused by a lack of postural fitness in the lower back and a lack of core muscle control.

The key to cycling comfort is good posture and positioning on the bike, especially if any performance aspect is to be considered.

When riding a bicycle, the hand's primary functions are to operate the controls (steering, changing gears and braking) and to share some of the load of the rider's weight. Hand problems occur when the rider is supporting their torso with locked arms, which leads to tension in the neck and shoulders due to the transfer of shock/vibration from the road.

If the cyclist is a recreational rider and chooses not to condition themselves for the activity (e.g. core strengthening), bicycle

components and accessories are available to provide a more upright sitting position and a more comfortable rider/bike interface. Examples of these components and accessories include appropriately padded cycling gloves, ergonomic grips, gel bar-tape and suspension forks. Most reputable bicycle stores will provide a bike set-up service. The best results are generally achieved using a combination of methods.

Prevention of traumatic injury requires the rider to have the technical skill, coordination and fitness to ride in the terrain (road or trail) they choose and to adjust their riding style according to their abilities and limitations.

A well maintained bike and use of appropriate protective equipment should also be encouraged. A cycling helmet is essential!

Many cycling injuries are avoidable. "Riding to the conditions", "just like driving to the conditions" is a common sense message that cyclists and motorists alike would do well to remember!



ACC HAND THERAPY SERVICES CONTRACT

The contract allows DIRECT REFERRAL by:

- GP's
- Specialists
- Hospital doctors
- Physiotherapists
- Occupational Therapists
- Case managers

Our Contract Provides For Your Client:

- Fully trained Hand Therapists
- No co-payment
- Cost of splints covered

WE WELCOME PRIVATE PATIENTS



THE UNPLANNED DISMOUNT

Whether it is an embarrassing fall whilst waiting for the lights to change or an acrobatic crash on a technical downhill course, it is inevitable that you will hit the dust at some stage in your cycling career. This may only dent your pride but can lead to a myriad of injuries. The tendency to protect oneself from impact with the outstretched arm consistently results in similar injury patterns. Radial wrist pain is a symptom reported by cyclists and commonly seen at the Merivale Hand Clinic.

The radial (or thumb) side of the wrist is responsible for approximately 80% of the force transmission across the wrist from the hand. With falls from a bike this transmission of energy tends to result in some commonly seen injuries including scaphoid or distal radial/ulnar fracture, scapho-lunate or radio-carpal ligament sprain or a contusion about the base of the thenar eminence.

Aggravation of pre existing arthritis, Carpometacarpal (CMC) joint sprain and development of a ganglion are also commonly seen at the Merivale Hand Clinic after falls from a bike. Early intervention, accurate diagnosis and appropriate management are important for the best outcome to occur.

Recognising and imaging for possible fractures, particularly scaphoid fracture (which account for over 75% of carpal fractures in ACC data from year ended June 2009), is paramount. Scaphoid fractures are often missed and a delayed diagnosis has significant negative repercussions for the client. Immobilisation and re-X-Ray with specialist review (e.g. Fracture Clinic, OOPD) at two weeks is normal practice and recommended if there is suspicion of a scaphoid fracture.

A particularly useful tool to aid diagnosis for a person presenting with wrist pain is palpation.

Palpation can give a hand therapist a very clear picture of localised, structure specific swelling, thickening and pain. It allows differentiation of the many closely related structures situated on the radial aspect of the wrist.

Wrist supports are a valuable tool for providing relative rest, pain relief and soft tissue healing after injury, whilst maintaining a degree of function in the hand. The Merivale Hand Clinic has a variety of wrist supports which can help in allowing an early return to work, sport and leisure activity. These range from custom soft cast and thermoplastic materials to softer neoprene and fabrifoam wrist wraps. Hand therapists will work with the client to attain the best outcome possible.

An early symptomatic objective examination of the wrist, by a hand therapist, can provide a clear diagnosis and systematic management pathway.





HELP! MY HANDS ARE NUMB!

Numb, clumsy, weak hands associated with cycling can occur for a number of reasons. One common cause is compression of the ulnar nerve as it passes through Guyon's canal in the hypothenar region of the hand.

Ulnar neuropathy in cyclists (also referred to as cyclists or handlebar palsy) is more commonly seen in long distance riders but can occur acutely after a single ride. Compression associated with cycling posture and repeated trauma from jarring and vibration can result in localised inflammation and oedema that leads to the neuropathy.

Overuse, fatigue, lack of experience and inappropriate or improperly adjusted equipment are potential risk factors.

The ulnar nerve enters the forearm via the cubital tunnel and then passes between the two heads of Flexor Carpi Ulnaris (FCU). It travels deep to FCU along the forearm to the wrist where it enters Guyon's canal in the hypothenar eminence. Here it divides into a deep motor branch and a superficial sensory branch.

Ulnar neuropathy at the wrist can therefore present with sensory (little finger and ulnar half of the ring finger), motor (some of the intrinsic muscles) or mixed sensori-motor signs and symptoms.

The cyclist may also notice tenderness and pain over the canal and into the little finger. Proximal to Guyon's canal the dorsal sensory branch divides from the ulnar nerve. This, in addition to the more proximal motor innervation of FCU and Flexor Digitorum Profundus to the little and ring fingers, allows for differential diagnosis of ulnar nerve compromise at the elbow

Treatment must include correcting cycle posture and technique and ensuring optimal 'bike fit'. Simply altering hand position frequently, using cycle gloves or padding the handlebars can also make a significant difference. Anti-inflammatory modalities, myofascial release, nerve gliding exercises, splinting and upper body strengthening along with rest from cycling may all form a part of conservative management program. Surgical release of Guyon's canal is an option that may be indicated if symptoms persist.

Symptoms may persist for months and early referral is beneficial to optimise nerve recovery and ensure continued cycling participation.



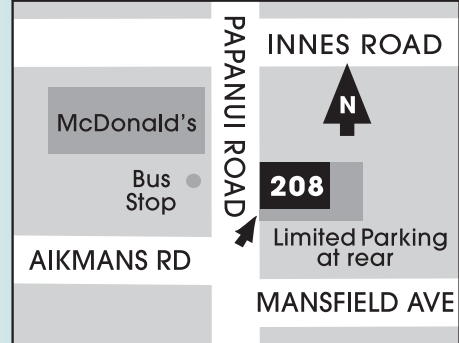
MERIVALE HAND CLINIC

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Satellite Clinics

MOORHOUSE HAND CLINIC

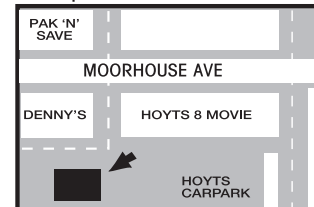
Located at
PHYSIOSOUTH MOORHOUSE

3 Pilgrim Place (off Moorhouse Ave)

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Fax: (03) 377-0614

email: Therapist@moorhousehandclinic.co.nz



KAIAPOI HAND CLINIC

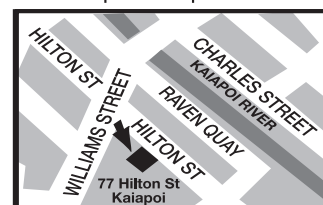
Located at
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