Medical Manual for Judo

Updated – July 2015

Author -
Dr John Azoury MBBS, Fellow RACGP, Fellow ACRRM, Dip RACOG, Mast Sports Med
PO Box 295, Queanbeyan NSW, 2620. Australia
02 62973311, 0402 449530,
Email: john.azoury@QGPSC.com.au

Table of contents

Tournament medical area requirements

Physical area
- Table and 3 chairs per combat mat area
- Treatment area approximating table to be 2 mats long in line of sight proximity to the competition area
- Privacy screen
- Examination table

Equipment
- A complete list of all athletes attending the tournament
- Ice packed in bags in an esky
- Access to power.
- Writing paper and pens
- Garbage bin
- Other gear as per medical/paramedical personnel

Personnel
- One doctor per competition
- One medically trained per mat area (doctor or physiotherapist)
- One other person per mat area (first aid certificate at least)

Guidelines for medical personnel attending Judo tournaments

Punctuality
It is expected that you arrive not less than 30mins prior to the commencement of the competition. If you are the one responsible for medical support then it is important that you liaise with the officials prior to the competition day and if possible be present on the day that the tatamis (mats) are laid out to negotiate an adequate treatment area.

Preparedness
Know the rules of Judo (see section page 12), be prepared with your support gear, be watchful at all times during a competition and when called to attend to an athlete at the competition area, ensure efficiency with professionalism.

Communication
Any significant treatment to an athlete must be explained to the athlete's coach or nominated support person. Written documentation of the treatment undertaken is advisable. Maintain a list of those athletes that you have treated (ideally obtain a complete list of attending athletes prior to the tournament).

Blood decontamination
Personnel should wear gloves during treatments and change gloves between blood contacts. Clean hands between contacts. Judogis that have been stained with blood need to have that stain soaked with a fresh solution of 1% bleach (sodium hypochlorite) for 10 minutes then washed. The judogi should not be worn until the stain has been bleached out and dried.

Fresh blood stains should necessitate changing the judogi until the above procedure has been undertaken.
Tatami stains should be cleaned with a neutral low sudsing detergent and wiped dry.

Bleeding control
Be efficient when attending to the athlete on the competition area. Do not use bandaids or taping that is likely to fall off. Circumferential taping is preferred but one must be careful to avoid restricting joint movement or blood supply.
Wear gloves when handling blood, clean hands and dry afterwards. Change gloves after use.
Dental rolls or rolled gauze strips are useful for bleeding noses.

General Procedures for medical/paramedical personnel

- Do not interfere with a bout unless requested by a referee or an obviously potentially life threatening event has occurred.
- Blood control is at the direction of the referee.
- Do not apply tape, ice, or anything else to the athlete unless it is for control of bleeding.
- Offer the athlete a more thorough assessment after the bout and accompany the athlete from the mat area to the treatment area.
- Be mindful of an athlete with a continuing injury in subsequent bouts and request a repeat examination prior to the next bout.
- Keep a watchful eye on the competition at all times.
- Ensure that each mat area has at least one medical observer in constant attendance.

Procedure for medical recording at competitions

All significant medical related contact needs to be recorded at competitions.

On-mat blood contact can be itemised as a simple blood entry without the need for athlete detail.

On-mat injury related contact requires a medical record initiated at the point of contact. Please use the 'Off/On-Mat Tournament Injury Record' form.

The injured athlete will need to be handed over to the 'Off-mat' medical team who will initiate a detailed record (Patient Notes) as part of their medical management process.

Off-mat note recording procedure:

1. Immediately prior to or during initial assessment ask the athlete or the athlete's coach/carer to write demographic details on the **Patient Notes**
2. Complete the patient notes details after the management is completed
3. **Provide a copy** of the notes to the athlete and coach/carer
4. Make a short notation summary on the '**Off/On Tournament Injury Record'**.

Guideline for the management of the seriously injured person

Serious injuries include - joint dislocation and fractures, any period of loss of consciousness, uncontrolled blood loss, ocular injuries, fractures including ribs and suspected major spine trauma

- When an injury is potentially serious request that the athlete withdraw from the competition. In the case of minors, be extra cautious and conservative
- Should you decide that the athlete, because of an injury, is to be disqualified then stay with the athlete and escort the athlete off the mat area and inform the referee's commission

- If the above has applied and the athlete competes again that day, inform the competition manager and request that the athlete be cleared by you prior to the next bout
- Involve the athlete's manager, coach or nominated support person in all cases that a minor (under 16 years) is treated and in all cases that a 'serious' injury has occurred or where medications are given
- Beware - the athlete not fully co-operative may have had undiagnosed concussion. Quick tests of cognition will help differentiate. Request that the athlete be disqualified if concussed at any time during the competition.
- In the case of a significant cervical spine injury, do not move the athlete off the competition area unless adequately equipped and trained. Immobilise the neck prior to any assessment procedures being undertaken and proceed to cervical collar as soon as possible.

Concussion management procedure

IMMEDIATELY REMOVE FROM PLAY, and not allow a return to activity until they are assessed medically.
Inform the referees' commission regarding the above
Perform a SCAT3 evaluation

Use a modified 'Maddocks' score as noted:

- *"What venue are we at today?"*
- *"What day is it today?"*
- *"What weight division are you competing in?"*
- *"Who did you compete against last ?"*
- *"Who is your coach?"*

Engage the assistance of a responsible adult for constant supervision
Refer to a medical professional for diagnosis and guidance as well as return to play decisions, even if the symptoms resolve.
Refer to the nearest hospital for persistent symptoms - Generally advised after 30 minutes.
If symptoms resolve, provide concussion advice form to responsible adult.

Concussion General Information

Loss of consciousness is not a universal feature of concussion. A blow to the jaw can cause a head injury.

Mild concussion is where consciousness is preserved. There is a transient confusion and disorientation unaccompanied by any amnesia or headache, dizziness or lack of coordination.

Moderate concussion has associated loss of consciousness and reverses completely within several seconds. There may be transient neurological signs. There may be temporary confusion after recovery with some degree of pre and post amnesia. Post-traumatic amnesia level is a guide to the severity of the concussion. There may be personality changes. Persistence of symptoms past 30 minutes is a recommendation of formal assessment in a hospital environment.

Severe concussion is associated with longer periods of loss of consciousness (more than 1 minute), with more headache, dizziness, and amnesia. Persistence of symptoms past 24 hours is significant and will require further investigation.

Concussion should be suspected if one or more of the following visible clues, signs, symptoms or errors in memory questions are present.

1. Visible clues of suspected concussion

- Loss of consciousness or responsiveness
- Lying motionless on ground / Slow to get up
- Unsteady on feet / Balance problems or falling over / Incoordination Grabbing / Clutching of head

- Dazed, blank or vacant look
- Confused / Not aware of plays or events

2. Signs and symptoms of suspected concussion

• Loss of consciousness	Irritability	• Balance problems
• Dizziness	• Amnesia	• Feeling slowed down
• Nausea or vomiting	• Nervous or anxious	• More emotional
• "Pressure in head"	• Sensitivity to noise	• Sensitivity to light
• Difficulty concentrating	Headache	• "Don't feel right"
• Feeling like "in a fog"	Sadness	Blurred vision
• Drowsiness	• Confusion	• Seizure or convulsion
• Fatigue or low energy	• Neck Pain	• Difficulty remembering

3. Memory function
Failure to answer any of these questions correctly may suggest a concussion:

• "What venue are we at today?"	• "Who did you compete against last ?"
• "What day is it today?"	• "Who is your coach?"
• "What weight division are you competing in?"	

Judo specific concussion stepwise return to play recommendations

The following recommendations for the management of concussion is a minimum standard and should not preclude specialist recommendations.

First concussive episode

Rest from exercise/ exertion until symptoms have completely resolved for 1 week
Aerobic exercise 1 weeks (no randori, no strength training, avoid being thrown)
Light randori 1 week
Club based shiai 1 week
Competition after medical clearance
If at any stage there is a return of symptoms then return to previous rehab stage.
If unable to progress past first stage then seek medical advice.
If persisting medical symptoms despite rest them seek medical advice.

Second episode of concussion within 12 months

Obtain medical review prior to commencement of the graduated exercise program.
Progress rehab as above but with 4 week interval of progression.

Third and subsequent episode of concussion within 12 months

Seek specialist advice
Not for competition for 12 months.
Return to play only after medical clearance.
If symptoms recur then seek medical advice and ensure follow up is arranged.

Making weight

All coaches who manage athletes with significant weight loss requirements pre-competition are urged to adhere to safe practices.

Rapid weight loss and its associated dehydration (in a period of less than 3 days), especially when more than 2% bodyweight is lost, has been linked to serious illness and is to be avoided. Headache, irritability, poor concentration, tiredness and unsteadiness can be symptoms of severe dehydration and can precede death from heat stress in the context of overexertion.

Guidelines:

Pre-season: Make a determination as to a minimum weight that athletes are allowed to reach. Judo does not have mandated recommendations, however as an example, wrestlers in the US have a 'minimum weight set at 5% body fat for men and 12-14% for women.' and 'they are only allowed to lose a maximum of 0.9 kg/wk from the start of the pre-season to the date of their competition. For example, a 78 kg male wrestler is assessed as having a % body fat of 7.8%. Therefore, his fat free weight is - 78 – (78 x 7.8%) = 78-6.9 = 71.9 kg Minimum weight = 71.91/0.95 = 75.7 kg. Therefore, this athlete is not allowed to fight in a weight category below 75.7 kg'.

Pre-Competition: Weight loss in this phase should be done slowly and as a general rule be not more than 0.5 kg a week. A dietitian should be consulted in cases requiring greater weight loss and especially if their lean weight is above their competition weight in the 6 weeks pre-competition.

Immediate pre-competition: An athlete should be within 2% (non-dehydrated weight)of his/her competition weight in the 3 days preceding it.

Managers and coaches are advised against encouraging athletes to make weight outside the above recommendations.

Recommendations for urgent medical attention:

Symptomatic athletes (those with headache, irritability, poor concentration, tiredness and/or unsteadiness), especially those who have dehydrated, should be assessed by a medical officer as a matter of urgency.
Be especially vigilant in hot humid environment.
Be aware that thirst is a late symptom of dehydration.

Further reading:
http://www.ausport.gov.au/ais/nutrition/factsheets/body_size_and_shape/weight_making_sports

Tools of trade

The following is a suggested list of items that should be readily available at major competitions.
It is important to liaise with the venue organisers and negotiate with this list in mind and knowing local conditions.
Note - this list is not exhaustive

1: Venue managed items to be requested

Bandaids (small packet)
Plastic Buckets (2)
Spray bottles (2)
Bottled water (small size 12)
Disposable cups (12)
Chux super-wipes (large roll)

Cotton pads
Bandages (12)
Slings (12)
Plastic bags for the ice (50)
Packet of Gauze
Box of Gloves large size (2)
Paper towels (3)
Hydrogen peroxide (1)
Moist towelettes (3 small packets)
Ice and esky
Antibacterial hand gel or solution (3 small bottles)
Paper tissues
Small garbage bags (12)
Tapes - assorted - for strapping (12xwide)
Emergency telephone numbers
A directional map to the nearest 24 hr pharmacy
A directional map to the nearest hospital
A directional map to the nearest medical clinic that is open
Examination table
Wheelchair
Scoop stretcher and/or ordinary stretcher
Automated defibrillator
Oxygen

2: Doctor managed items to bring

Medical equipment:
Auroscope
Ophthalmoscope
Torch
Pulse oximeter
Sphygmomanometer
Tongue depressors
Glucometer
Thermometer
Volumatic spacer
Peak flow meter
Rescucitation mask
Sharps container
Cervical collars
Script pad
Writing paper and pen
Suture set and sterile gloves x 2

Drugs:
Oral rehydration powder
Panadol tablets
Nurofen tablets
Imodium
Mylanta tablets
Throat lozenges
Paracetamol
Nurofen
Penthrox
Ventolin inhaler
Parenteral and oral Metoclopramide
Parenteral and oral Buscopan
Parenteral and oral antibiotics
Parenteral and oral antihistamine – Promethazine
Fexofenadine (Telfast or similar non-sedating antihistamine)

Other:
Friars Balsam
Low sudsing cleaning solution
Dencorub

3: Recommended equipment at the mat-side medical table

Tape - assorted
Hypafix/Mefix
Nose plugs
Gloves
Small garbage bag
Gauze
Disposable towel
Pouch
Hand wash/antibacterial
Pen
Scissors
Data record sheets

Mat cleaning:
Bucket
Spray bottle with water
Cleaning towelettes
Chux/paper wipes
Gloves
Plastic bags
Vomit bag

Medically relevant and judo specific general information

Introduction

Judo is a vigorous body contact sport. It involves obtaining submission by means of throwing, pinning on the ground, arm bars and strangulations. There is no protective equipment used, but it is highly regulated and there are no weapons used. At competition level there are significant risks of blood contamination through lacerations. Injuries sustained are usually minor, however they can include fractures, dislocations and periods of unconsciousness. It is not uncommon at national competitions (where there are more than 300 competitors) to have 3 or 4 fractures, 2 or 3 dislocations and 2 or 3 athletes with unconsciousness due to concussion or strangulations. Judo players compete in age, weight and gender based divisions. 'Making weight' is a requirement that, in many cases, encourages dehydration.
It is possible to participate in the sport of Judo in a non-combative way. This would involve Kata (a choreographed form of judo).
The following protocols have been developed with the above in mind and in the interest of the competitor.

Pregnancy

Be aware that there is a risk of miscarriage when competing in Judo. There is also a theoretical risk of malformations due to the overheating effects of training. It is advised that pregnant women do not compete in Judo at competition level.

DVT(deep venous thrombosis) and Travel

Deep venous thrombosis can lead to death from lung clots. The risk is low and has been calculated at one in two million passengers. In high-risk passengers it is one in one hundred thousand passengers. High risk situations include travelling with a limb that has been immobilised (e.g. in plaster), smoking, prior DVT(s) and being on the oral contraceptive pill. Aspirin has not been shown to be protective. Compression stockings do prevent against DVT(s) but need to be fitted by a professional.

To minimise the risk of deep venous thrombosis, common sense suggestions include the following -

- Drink plenty of fluids
- Regularly mobilise ankles and massage calves
- Avoid combining sedatives and alcohol
- Avoid diuretics such as tea and coffee
- Wear non-restrictive clothing and avoid tight bandages
- Exercise by walking before and after travel and during stopovers
- Do not dehydrate

Making weight

Rapid weight loss and its associated dehydration (in a period of less than 3 days), especially when more than 2% bodyweight is lost, has been linked to serious illness and is to be avoided. Headache, irritability, poor concentration, tiredness and unsteadiness can be symptoms of severe dehydration and can precede death from heat stress in the context of overexertion.

HIV and other blood-borne diseases

The risk of infectious disease transmission is low but real. Due to the not infrequent contact with blood, no athlete known to have HIV, active Hepatitis B and Hepatitis C should participate in Judo at competition level. Athletes competing should understand that blood spill management minimises transmission of these diseases but does not completely prevent it.

Vaccinations

All judo athletes should have up to date vaccinations against Hepatitis B and Tetanus.
It is also recommended that other vaccinations be up to date relevant to the travel destination. Please check with your usual doctor.

Medical clearance

All athletes should be aware of the above and should have a medical clearance prior to overseas travel and prior to attending each competition. In knowing the above they compete at their own risk.

Injury prevention

Attending competition with the following can lead to an increased risk of serious injuries:

- An anaesthetised joint
- A spinal injury
- A major joint injury (knee, shoulder and elbows)
- A febrile illness
- Being nauseated
- Being under the influence of drugs or alcohol
- A suspected rib fracture
- Being more than mildly dehydrated (more than 2% bodyweight)

Please note that this is not an exhaustive list.

Mouth guards

Whilst mouth guards prevent dental injuries and can minimise concussion, they carry a risk of upper airway obstruction in the unconscious person. In Judo this is especially relevant as the sport does involve the use of strangulation techniques which not too infrequently does lead to loss of consciousness.

Drugs in sport

Know your restrictions about the use of drugs in Judo.
Up to date advice can be found by accessing the WADA website.
The athlete is advised to check any drug/substance use prescribed or otherwise.
Prior approval in all situations of banned substances is needed unless medically deemed for the management of an emergency. In that situation notification at the earliest convenience is required.

Athletes who require the legitimate use of the substances below need to apply to OJU for an TUE (Therapeutic Use Exemption).

Substances subject to the TUE include:

- All asthma medications are subject to the TUE process
- Glucocorticosteroids are contained in some anti-inflammatory preparations. They are subject to an ATUE if administered via the following routes: anal, intravenous, intramuscular routes. Note that glucocorticosteroids applied topically (including skin creams, eye drops, topical mouth applications, nasal sprays and ear drops) are permitted without an TUE.

IJF Rules relevant to competitions

A complete set of relevant rules relating to Judo competitions can be found at the following web site: "http://www.ijf.org/rules".

Attachments

1. Judo Injuries – a retrospective analysis
2. Patient Notes worksheet
3. Off mat tournament injury record worksheet
4. Medical release form - injury
5. Agreement to continue in the competition after strangulation
6. Concussion advice card and Concussion return to play advice
7. Ice treatment advice sheets

Judo injuries

A retrospective analysis of injuries at national competitions in Australia

Introduction

Judo is a contact sport and as in any body contact sport injuries do occur.
Judo simplified is wrestling whilst wearing a suit. A judo player (judoka) will win by throwing a person onto their back, holding them on the ground for 20 seconds or by obtaining a submission either through a strangulation or an elbow joint lock technique.
Judo specific referees enforce rules that protect the judo player from significant injury.
These competitions are usually held over a weekend with judokas separated into different age, gender and weight categories.
The following statistics have been collated from figures collected over 21 competitions held from the period of 1996 to 2011. There has been no attempt to separate the statistics into the various categories mentioned and whilst this is a deficiency one can still get an idea of the risks inherent in the sport.

Results

Blood contact risk is calculated at around 3% per bout.
The fracture risk is calculated at 0.38% per bout and dislocations at 0.15% per bout.

Table: Fracture number and type

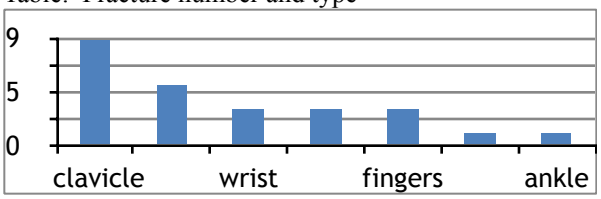
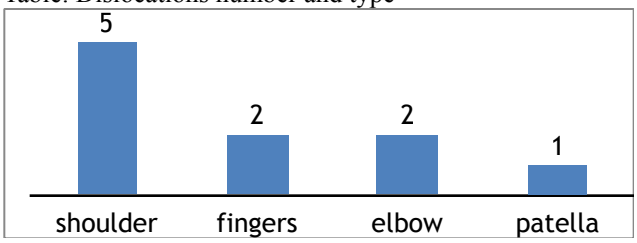


Table: Dislocations number and type



Injuries have been grouped together in the following table. As a whole the incidence is at a rate of 5.8% per bout.
Table: Injuries total number and type

Injury type	Percentage
Shoulder	12%
Knee	10%
Elbow joint all	8%
Concussion	8%
Spine - Cervical not fracture	8%
Spine - Lumbar incl. pelvis (not fracture)	7%
Chest wall - ribs	5%
Hand incl. nail	5%
Ankle joint	4%
Spine - Thoracic not fracture	4%
Wrist	3%
Chest wall – incl. clavicle	3%
Eye	3%
AC joint	2%
Soft tissue - other	2%
Chest wall – incl. sternum	2%
Foot	2%
Lower limb - not joint	1%
Strangulation - with unconsciousness	1%
Ears	1%
Hyperventilation	1%
Nose - complex	1%
Strangulation with a convulsion	1%
Abdomen - blunt trauma	1%
Upper limb - not joint	1%
Asthma	1%
Vasovagal	1%
Hips	<1%

Scrotum	<1%
TMJ	<1%
Vomit - at contest	<1%

Discussion

The single most common contact injury that medical support personnel will have to deal at a judo competition is blood control. Lip, nose and finger nail bleeding predominate. As there is no duty of disclosure by the athlete with regards their immunity or infectivity of the blood born Hepatitis B, C or HIV viruses, the skill of the medic is to control the bleeding in a safe and secure way that will allow the competitor to complete the particular bout in a low contaminant environment. In general lacerations are secured with circumferential taping and modified dental cotton rolls are inserted intra-nasally in the case of epistaxis.
The fractures that occur are generally upper body and ankle. These reflect the nature of the sport where an opponent is being thrown from body height and occasionally landing together with the additional weight of their competitor. The ankle injuries that occur reflect the use of foot sweeping techniques amongst others.
The dislocations that occur also reflect the type of techniques used in the sport. Of special mention is the elbow dislocation which is perhaps the most preventable of all injuries. They usually occur as a result of the judoka throwing their arm out reflexively in order to prevent a fall. They are spectacular in their presentations and extremely painful. They invariably do not occur when an elbow lock is applied.
The soft tissue injuries noted show a similar distribution including shoulder, knee followed by soft tissue spine injuries. An observation of mine is that a significant proportion of the injuries seen are pre-existing although no data has been collected to corroborate this statement. No spine fractures have been confirmed but remain a risk and a challenge for acute management. The majority of non-dislocation elbow injuries are a result of elbow locks. Some athletes prefer to risk an elbow injury and not submit in the hope that a referee will temporarily stop a match, however, the majority of injuries occur as part of the normal course of an elbow lock being applied.
Concussion occurs at an incidence of 8% of all injuries. Whilst there have been no deaths, nor significant intracranial events in Australia at these Judo tournaments and we have no have no way of documenting minimal brain injury.
It is also a common held belief that strangulation to unconsciousness even when followed by a convulsion is a benign condition and should not preclude a return to play on the same day.

Conclusion

Judo is a contact sport where strong forces are generated at close range with a not insignificant possibility of serious injury. At major Judo tournaments in Australia, where more than five hundred athletes of different ages compete, medical personnel should expect to have to manage approximately thirty athletes with various soft tissue injuries as well as the occasional fracture and dislocation. It is essential that those personnel have good systems in place to manage these injuries.

Patient Notes

Treating practitioner details

Name: Ph: Email:

Date: Event and Venue:

Patient details

Name: Sex: M/F Age: D.O.B:

Phone: Email:

Carer/Coach contact details:

History:

Examination:

Provisional diagnosis:

Treatment:

Signature: Date:

Medical release form - injury

This form is only to be used for non life threatening injures, including joints, where the athlete chooses to continue in the competition against medical advice.
It is not to be used for concussion, cervical spine injuries or where the sporting code specifies cessation of competition.

Date:

I, _____ understand that I have sustained the following injury:

I understand that there is a high chance that I will re-injure myself should I choose to continue in this competition and that I may worsen the injury to an unspecified degree.

I have decided to continue to compete.

Name:

Signature:

Witness name:
(team coach, team manager, or other consenting adult)

Witness signature:

Off-mat /On-mat Tournament Injury Record

Name	M/F	Age/wt category	State	Injury	Comments
Blood Contact Number:					

Agreement to continue in the competition after strangulation

This form is only to be used for those older than the cadets age group

Current advice is that unconsciousness, when caused by shime-waza that is applied in the controlled environment of judo at competitions, is associated with full and rapid recovery even if a convulsion has occurred. Also it appears, based on current evidence, that there are no long term consequences. However it is important to note that there have been no validated studies on the possible long term issues. If you understand this statement and wish to continue to compete in this competition please sign below. Be aware that you will not be allowed to continue further if unconsciousness due to shime-waza occurs more than once at this competition.

Athlete name:

Carer/Coach name (if relevant):

Athlete or Carer/Coach signature:

Witness name:

Witness signature:

Date:

Concussion advice card

To be given to the person monitoring the concussed athlete

Patient's name:_____

Date / time of injury:_____

Date / time of medical review: _____

Treating physician:_____

This person has received an injury to the head. A careful medical examination has been carried out and no sign of any serious complications has been found. Recovery time is variable across individuals and the patient will need monitoring for a further period by a responsible adult. Your treating physician will provide guidance as to this timeframe.

If you notice any change in behaviour, vomiting, dizziness, worsening head- ache, double vision or excessive drowsiness, please contact your doctor or the nearest hospital emergency department immediately.

Other important points:
- Rest (physically and mentally), including training or playing sports until symptoms resolve and you are medically cleared
- no alcohol
- no prescription or non-prescription drugs without medical supervision.

Specifically:
- No sleeping tablets
- Do not use aspirin, anti-inflammatory medication or sedating pain killers
- Do not drive until medically cleared
- Do not train or play sport until medically cleared

My phone number: _____

Concussion return to play advice

No further play for the duration of the competition days (irrespective of age and weight divisions)
When returning athletes to play, they should be medically cleared and then follow a stepwise supervised program, with stages of progression

If the athlete is symptomatic for more than 10 days, then consultation by a medical practitioner who is expert in the management of concussion, is recommended.
Medical clearance should be given before return to play

Ice treatment

- Apply for 15 minute intervals every 1 hour
- Use a large amount of crushed ice.
- A wet cloth should be applied between the skin and the ice to prevent ice burns.
- Do not apply to an area where there is local circulation impairment or over nerves.
- Once the part is cool, then commence gentle, non-weight bearing movement until warmed up again.
- For an ankle injury, place the foot in a bucket of water which has a floating layer of ice. When the foot is cold, begin ankle movement (toes up and down) exercises until warmed up. Repeat at hourly intervals for 3 hours.
- Always elevate the injured limb and don't forget to bandage firmly after the above exercises.

Ice treatment

- Apply for 15 minute intervals every 1 hour
- Use a large amount of crushed ice.
- A wet cloth should be applied between the skin and the ice to prevent ice burns.
- Do not apply to an area where there is local circulation impairment or over nerves.
- Once the part is cool, then commence gentle, non-weight bearing movement until warmed up again.
- For an ankle injury, place the foot in a bucket of water which has a floating layer of ice. When the foot is cold, begin ankle movement (toes up and down) exercises until warmed up. Repeat at hourly intervals for 3 hours.
- Always elevate the injured limb and don't forget to bandage firmly after the above exercises.

Ice treatment

- Apply for 15 minute intervals every 1 hour
- Use a large amount of crushed ice.
- A wet cloth should be applied between the skin and the ice to prevent ice burns.
- Do not apply to an area where there is local circulation impairment or over nerves.
- Once the part is cool, then commence gentle, non-weight bearing movement until warmed up again.
- For an ankle injury, place the foot in a bucket of water which has a floating layer of ice. When the foot is cold, begin ankle movement (toes up and down) exercises until warmed up. Repeat at hourly intervals for 3 hours.
- Always elevate the injured limb and don't forget to bandage firmly after the above exercises.

Ice treatment

- Apply for 15 minute intervals every 1 hour
- Use a large amount of crushed ice.
- A wet cloth should be applied between the skin and the ice to prevent ice burns.
- Do not apply to an area where there is local circulation impairment or over nerves.
- Once the part is cool, then commence gentle, non-weight bearing movement until warmed up again.
- For an ankle injury, place the foot in a bucket of water which has a floating layer of ice. When the foot is cold, begin ankle movement (toes up and down) exercises until warmed up. Repeat at hourly intervals for 3 hours.
- Always elevate the injured limb and don't forget to bandage firmly after the above exercises.