

Australian Institute of Orthopaedic Technologists Inc.

AIOOT newsletter

August 2015

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2011

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Letter *from the President...*

Mr. Terry James

This year on the 8th and 9th of August we will be presenting the Annual AIOT Symposium and AGM at the Royal Melbourne Hospital.

The conference will bring together orthopaedic cast room personal from around Australia to discuss new techniques in casting, lectures and the latest in Orthopaedic medical accessories that are available.

The Weekend is also gives you the members the opportunity to attend the Annual General Meeting and offer your input when discussion opens for General Business. The current AIOT Executive has fulfilled its term after 3 years. All positions are open for Nomination: President, Vice President, Secretary, Treasurer, two Advisors to the Board.

The association is also looking for a member to take on the position of newsletter Editor. I encourage all members to consider nominating for any position. The AIOT needs new committee members with fresh new ideas which are needed to ensure the future of the AIOT.

Looking back over the past 3 years, the AIOT has grown successfully. The realisation of the Certificate IV cast Technology being offered by SWC Training, and our membership has increased substantially, However, we must continue to work even harder to keep the Association at the forefront of Orthopaedic Casting in Australia. This can only be achieved if every member offers input and constructive support to the newly elected AIOT Executive Committee.

On behalf of the AIOT and its members I would like to extend our warmest best wishes to our Vice President Mr. Greg Gysin on his retirement. Greg will still be actively involved in the AIOT. Unfortunately Greg couldn't be with us at the symposium. but we are thinking of you and Maureen and may you enjoy having the time to do whatever you want.

Terry James

Please contact myself or any of the Executive members regarding any enquiries or issues you may have.

terry_james@health.qld.gov.au

How to contact us...

President

Mr Terry James
Bundaberg Hospital
Bourbong Street
Bundaberg Qld 4670
terry_james@health.qld.gov.au
mobile: 0417 156 050

Vice-President

Mr. Greg Gysin
Townsville Hospital
100 Angus Smith Drive
Douglas, Townsville
Qld 4814
greg.gysin@health.qld.gov.au
Mobile: 0400 225 709

Secretary

Ms. Jenny Dalton
Specialist Clinics Tobruk Building
Austin Hospital
300 Waterdale Road
Heidelberg West
Vic 3081
jennifer.dalton@austin.org.au
Mobile: 0425 746 191

Treasurer

Mr. Robert Vragovski
Royal Melbourne Hospital
Grattan Street
Parkville
Vic 3000
robert.vragovski@mh.org.au
Mobile: 0407 991 424

Web Site Editor

Mr. Ross Wein
Bundaberg Hospital
Bourbong Street
Bundaberg Qld 4670
ross_wein@health.qld.gov.au

Newsletter Editor

Ms. Jenny Dalton
Specialist Clinics Tobruk Building
Austin Hospital
300 Waterdale Road
Heidelberg West
Vic 3081
jennifer.dalton@austin.org.au
Mobile: 0425 746 191

AIOT Website

www.aiot.com.au

Newsletter Layout

John Kinealy

Answers to the questions in the last issue?



John Kinealy

Fractures

1. Is a Weber A caused by abduction or adduction of the ankle?
Adduction.
2. What is a Pilon fx?
Comminuted intra-articular fracture of the distal tibia due to impaction of the talus into the tibial plafond..
3. Describe a Chopart fx?
A fracture dislocation of the Talonavicular and calcaneocuboid joints.
4. An inferior posterior Tibial fx is the result of the foot in plantar flexion. True or false?
True
5. Is a Colles' fracture through diaphyseal or metaphyseal bone?
Metaphyseal.
6. A Mallet finger is an injury to the PIP or DIP joint?
DIP
7. Is a Volar Bartons' fx a Smiths' type 3?
No its a type 2
8. Is a Jones fx found in the hand?
No its a fracture of the 5th metatarsal.
9. Is a triplaner ankle fracture usually found in adolescents? Yes/No
Yes
10. What is the most common type of Salter Harris fx of the distal radius?
Salter Harris type II

Casts

1. **What is the difference in characteristics between polyester and fibreglass bandages?**
Polyester can be rigid or flexible depending on the layers. It is smoother. If only two-three layers are applied, Polyester can be cut with scissors. Polyester is nearly 100% x-ray lucient.
2. **When is it best to excessively overpad a limb before casting or splinting?**
When excessive swelling is expected.
3. **Should the thumb be extended when applying a scaphoid cast?**
No.
4. **Why is the web space bar critical when applying a Charnley splint?**
It holds the wrist in ulnar deviation which is essential to maintain the fracture reduction
5. **What are the negatives of a Charnley splint?**
Like all casts and splints if there is insufficient coverage it will not hold. It can be removed easily, but so can a split cast.
6. **Does a cast need to be completely rigid from end to end?**
No.
7. **When splitting a fibreglass cast due to oedema, will univalving work? Why?**
No. if there is any sign of neurovascular compromise the cast must be bivalved as univalving does allow sufficient opening or relief of the of the cast due to fibreglass being a rigid tube that has no flexibility. Therefore, if it is not bivalved it may contribute to a compartment syndrome and bivalving may contribute to loss of fracture position.
8. **Are supracondylar humeral fractures generally flexed greater than 90 degrees?**
Yes
9. **Is a Sarmiento tibial cast used to treat Tibial Plateau fx's?**
No
10. **Is a Bennetts' fx considered a fx dislocation?**
Yes.

Sweat. Shower. Swim.

GENERAL CAST CARE DO'S AND DON'TS

- DO**
- Follow your health care professional's instructions
 - Rinse thoroughly to keep your cast clean
 - Inspect your skin condition in the cast area
 - File any rough casting tape spots with an emery board

- DON'T**
- Insert anything into the cast
 - Use lotions, oils or powders near the cast
 - Pull or tear out the cast liner

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Always read the literature use only as directed.
If symptoms persist, see your doctor/healthcare professional.

AquaCast™ is made in the USA

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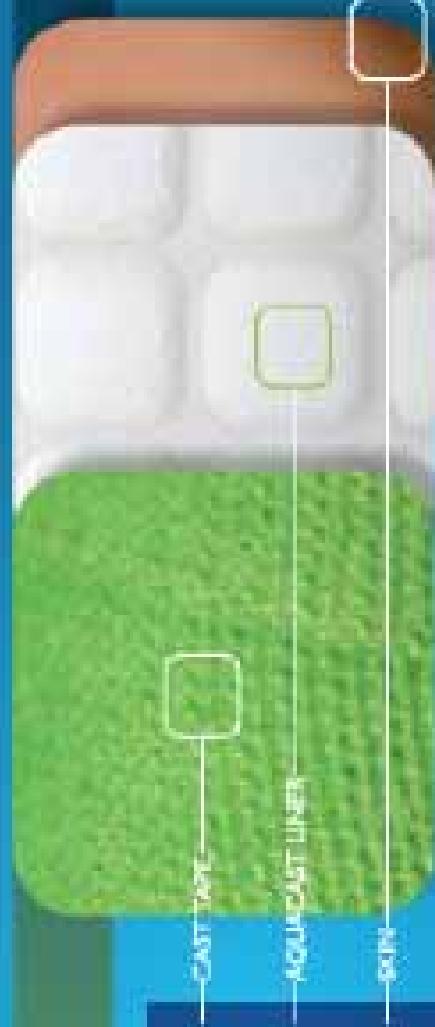
AquaCast™ LINER



AquaCast™ Liner eliminates the worries of keeping your cast dry.

How Does it Work?

Your AquaCast Liner contains billions of tiny pores which are much larger than moisture vapor molecules but much smaller than liquid water droplets. The Liner remains dry and your skin gets wet. Most of the water will drain quickly out of the ends of your cast. Your body temperature heats up the remaining water causing it to pass through the liner and the casting tape.



AquaCast Liner is made in the USA.

CAN I GET THE CAST WET?

Yes. Unlike traditional cotton liners, the AquaCast Liner will not absorb water. Your AquaCast Liner is a breathable, yet liquid-proof lining. It is designed with pillows to provide comfort and channels to enable water to run out of the cast for faster drying time. Any remaining water will evaporate through the lining much like water evaporating off a pool deck on a warm day.

CAN I WASH THE CAST?

Yes. Washing inside your cast can reduce odor and irritation and improve the overall skin condition of the affected area. Please use a mild hypo-allergenic soap and thoroughly rinse the area. The materials in your AquaCast Liner will not be affected by most soaps or detergents. Consult your health care professional as to which soaps may be most appropriate for you.

CAN I SWIM IN THE CAST?

Yes. Swimming in your AquaCast Liner is not a problem. When you get out of the water it is recommended that you rinse with clean, fresh water and remove as much of the liquid as possible to reduce drying times.

CAN I EXERCISE IN THE CAST?

Yes. There are no issues with perspiring in an AquaCast Liner. The material will not be affected by the salts or body oils in your perspiration. After extensive sweating in your cast, it is recommended that you rinse thoroughly with clean, fresh water and a mild hypo-allergenic soap.

HOW LONG WILL IT TAKE MY CAST TO DRY?

Many factors go into the amount of time it will take for your cast to dry, but in most cases, it should be sufficiently dry in less than 90 minutes. Factors that affect drying time include the air temperature and

humidity levels as well as your body temperature and activity level. You can reduce the drying time by draining the liquid water from your cast after you are out of the water. Your health care professional may have suggestions for how to do this.



Orthopaedic Quiz

Jenny Dalton

1. Which bone articulates with distal tibia and fibula?
2. Which of the following articulates with the head of the femur?
3. Posteriorly, the ilium joins the sacrum at the _____.
4. A fracture at the distal end of the radius in which the smaller fragment is displaced posteriorly is called _____ Fracture
5. Turning the hand so that the palm is upward is referred to as _____.
6. The initial step in the body's repair of a fracture involves _____.
7. A tear in the lateral or medial knee cartilage is repaired by performing a/an _____.
8. The first cervical vertebra is called the _____ and the second is called the _____.
9. What is the name of the disease that consists with inflammation of the tendon sheath of the thumb? _____ disease.
10. Explain a hammer toe? A toe with _____ flexion of the _____ phalanx and planter _____ of the 2nd and 3rd phalanges.
11. What is a baker's cyst?
12. A fracture of the femoral shaft would require a _____.
13. What surgical instrument is used to prepare the drill hole for the screw during an ORIF?
14. What surgical procedure is performed to relieve pressure on the median nerve?
_____.
15. The human body has 206 bones. How many are in the Axial region? _____ and how many in the Appendicular? _____.
16. What term is used for a fracture that heals in a position that does not resemble the original anatomical form of the bone and alters the mechanical function of the bone?
_____.
17. Manipulating fragments into alignment without incising the skin and using manual traction is called _____.
18. The bony process which can be involved in an ankle fracture is?
_____.
19. Extending the foot at the ankle is referred to as? _____.
20. What is an Osteophyte? _____.



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It's About Time...



A TCC minimally padded cast with additional padding for any loss of digits

John Kinealy

Picture No 1 demonstrates a Diabetic patient with neuropathy in the process of being treated for an Ulcer on the plantar aspect of his foot following amputation of his his 1st and 2nd toes. The following pictures demonstrate how I fill in the cast with part of a roll of undercast padding. Then the completed padding and followed by the completed cast. This method helps to stop the remaining toes from being crushed and relieves any pressure on the foot especially around the amputation site.

Kangaroo Cast

Picture provided by Jenny Dalton of a Joey with a broken leg after its Mother was hit by a car.





QUALITY ASSURANCE

Reduce mistakes!

Mr. Rob Einvanter,
Orthopaedic Technologist (Retired)
Sweden.

In this text the words Quality Requirements and Control are used. These have become common in Finnish, being linguistically adapted from translations of the words standard and criterium. The former word standard has in many texts been translated to Finnish as Quality Requirement. The author has personally used the words Quality goal, because in have created a Quality Requirement sets a goal for good Health care.

In general the term standard means: norm, normal type, common or normal model or type, etc. With standardisation one means taking measures to assure



*5 year old child sustained this burn/scar after cast split due to neurovascular complications.

that a product or an intended goal are uniform and thus improve general comparative quality. (Definitions from The New Conversation Dictionary.) Standards and Quality Requirements are also general patient expectations concerning quality in Health care. Standards are thus the demands which Health care is required to meet and are commonly accepted when it concerns a qualitative high standard care. (According to Kalkas compendium, 1988.)

It is just not enough that we set up a goal. It is very important we also check that we have reached that goal. Therefore one must make an instrument for measurement, a form, a balance sheet, a criteria meter for Quality Requirements. "Criteria are known quantities, the conditions of object or a meaning which definitely sets it apart from all others. (According to the New Conversation Dictionary, 1968.) In other words the criteria, quality measurements are a method to judge the quality of care. An example of Quality Requirement is an operation is successful when the patient does not get a hospital infection. A Quality Control would then be that a patient did not get an infection.

One learns that it is easier to organize Quality Requirements if you begin every statement (sentence) with the words "Care is good, when..." Quality Control is easy to implement, you only need to check if the care is as good as one would wish.

The most important thing with Quality Requirements is the quantitative increase in the quality of care and the creation of a general satisfaction with your work. A job well done is always a reward in itself.

If we begin to demand Quality Requirement, it would be ideal if there were International Quality Requirements for Health Care for the world, and similar Quality Requirements for Finnish

Plan

- Age of patient
- Fracture type
- Work situation
- W.B. or N.W.B.
- Swelling
- Incontinent
- Diabetic
- Splint/Full cast?
- Split cast
- Extra padding
- POP or Synthetic
- Window needed later
- Moulding

Excerpt from 'Introduction To Casting'. John Kinealy 1997.

Prepare

- Patient comfort
- Applicator comfort
- Bed height
- Patient position
- Limb stands
- Draping of patient
- Materials at arms length
- Equipment (scissors etc)
- Water (right temperature)
- Correct parameters
- Moulded properly
- Correct bandage width

Technique

- Speed
- Dexterity
- Even consistent bandages
- Smooth inner layers
- Smooth outer layers
- Cool or tepid water

Follow Up

- Neurovascular check
- Check edges
- Check mobility of all joints
- Check for dents or defects
- Verbally explain cast & limb care
- Provide written instructions on limb & cast care
- If sling provided explain any exercises
- Mark cast for any future windows
- Arrange cast check for following day
- If Total Contact Cast- Cast must be marked clearly with the words "Unpadded cast".

One of the consequences of cast application!

Taken from Mail Online.
To read the full article go to- www.dailymail.co.uk/news/article-1035568/Man-suffers-broken-ankle-LOSES-leg-doctors-make-plaster-cast-tight.html

*Images taken from R.Vragovski & J. Kinealy Casting Power Point presentation.

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Man suffers broken ankle and LOSES a leg after doctors make plaster cast too tight

By JAYA NARAIN
Last updated at 4:04 PM on 16th July 2008
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A pensioner was forced to have his leg amputated after medicals allegedly fitted him with a plaster cast that was too tight.

Tom Talks, 80, fractured his ankle while walking his dog and was taken to hospital where he was fitted with the cast.

But his leg swelled up and he was left in agonising pain which forced to return several times to ask doctors to loosen the cast to relieve the pressure.

They refused and Mr Talks eventually collapsed and was rushed to hospital by ambulance where surgeons told him he was lucky to be alive.



Pick and



FEMALE T

I CAN'T cry, false eyelash Penny Smith down in one day on GMTV Tribute to G after 17 years

New Cheryl goes clubbing with cancer They're sp... on her toot

care as well as your own hospital's Quality Requirement based on a world standard. There are no known International Quality Requirements as yet but one can begin to apply the principles to one's own work in the clinic. If there is not sufficient interest for Quality Requirement in your own clinic, the individual members of the staff

can make a Quality Requirement for their own area of treatment and carry it out alone. It is often enough that in the beginning that one starts following more carefully Health care's most important principles such as attention to the individual, safety and antiseptic factors, co-operation and interpersonal relations.

Casting is one of a technician's main tasks, so QR (Quality Requirement) has been initially applied to these areas. Hopefully, what follows below may be an example of how one can create Quality Requirement and Quality Control.

QUALITY REQUIREMENT NO 1

The cast is good when it is correctly applied anatomically and physiologically, that is it fulfills its task.

- It immobilises the injury in the correct position.
 - It is the correct size. (dimensioned)
 - It does not restrict movement in those joints in which this is permitted.
 - It does not apply unnecessary pressure during movement or cause skin sores.
 - It is correctly padded.
 - It gives sufficient support but is neither too tight, giving rise to undue pressure, or too loose.
 - It does not interfere with daily activity more than is necessary.
 - It allows sufficient movement and use limb of the limb.
 - It does not "point-pressure" against the skin.
 - It does not have "fingerprints" or edges pressing into the skin.
 - It is as painless as possible.
 - The patient complains no more than "normal" over the pain.
- With a good cast both the patient and the doctor are satisfied.

QUALITY REQUIREMENT NO 2

The cast is good when it is aesthetic

- It looks good
- Its surface is smooth
- It looks professional
- Its distal and proximal ends are suitable and well-fitting.
- Its colour suits the situation.

QUALITY REQUIREMENT NO 3

The cast is good when its material is correctly chosen.

- it remains intact during the immobilisation period.
- it permits personal hygiene and rehabilitation, even for bed-ridden patients.
- the initial "primary" cast makes allowance for swelling.
- this form of treatment does not cause more problem than the injury
- the material is chosen with due consideration to both economic and environmental points of view.
- the choice should be for every individual case taking into account both the medical praxis and social considerations, e.g. social groups, children, and those who have "difficulty in understanding their situation."

QUALITY REQUIREMENT NO 4

The cast is good when the patient has been given sufficient advice:

- one explains to the patient why just this type of cast has been used.
- one tells the patient about the fracture and the casting position.
- one informs the patient about fluctuations in swelling and that the cast may become "loose" periodically.
- one describes to the patient the drying period of the material and precautions to observe at this time.
- one warns the patient not to get the cast wet and what happens should this occur.
- one alerts the patient about pain, and the degree of pain that is considered normal and when this level is exceeded who they should contact.
- One makes clear for the patient about how they should use the extremity in the cast. Applying light weight-bearing. How to use the hand while doing housework, etc.)
- One gives advice about elevating the extremity to reduce swelling.
- One recommends measures for rehabilitating a casted extremity during the period of immobilization.

Conclusion

I hope this article makes you think before and after applying, modifying or removing any cast or splint.



*Child presented with pain in ante cubital fossa. Cast applied in extension then flexed causing this crease.



*2 day post ORIF of Weber B Fx. Pt complained of pain and intense burning. Applicator used thumb to hold ankle in plantargrade position.



*Adult with B/K F/G cast. Same problem as Image 1. Pressure area from padding and material applied with foot plantarflexed, then extended.



*Thumb spica slab applied with two separate pieces. POP slab allowed to crease over already wrinkled and poorly applied padding.

**Australian Institute
of Orthopaedic Technologists Inc.**

**2015 National
Symposium**

Saturday 8th & Sunday 9th August

**Royal Melbourne Hospital
Parkville Victoria**

**See You
There !**