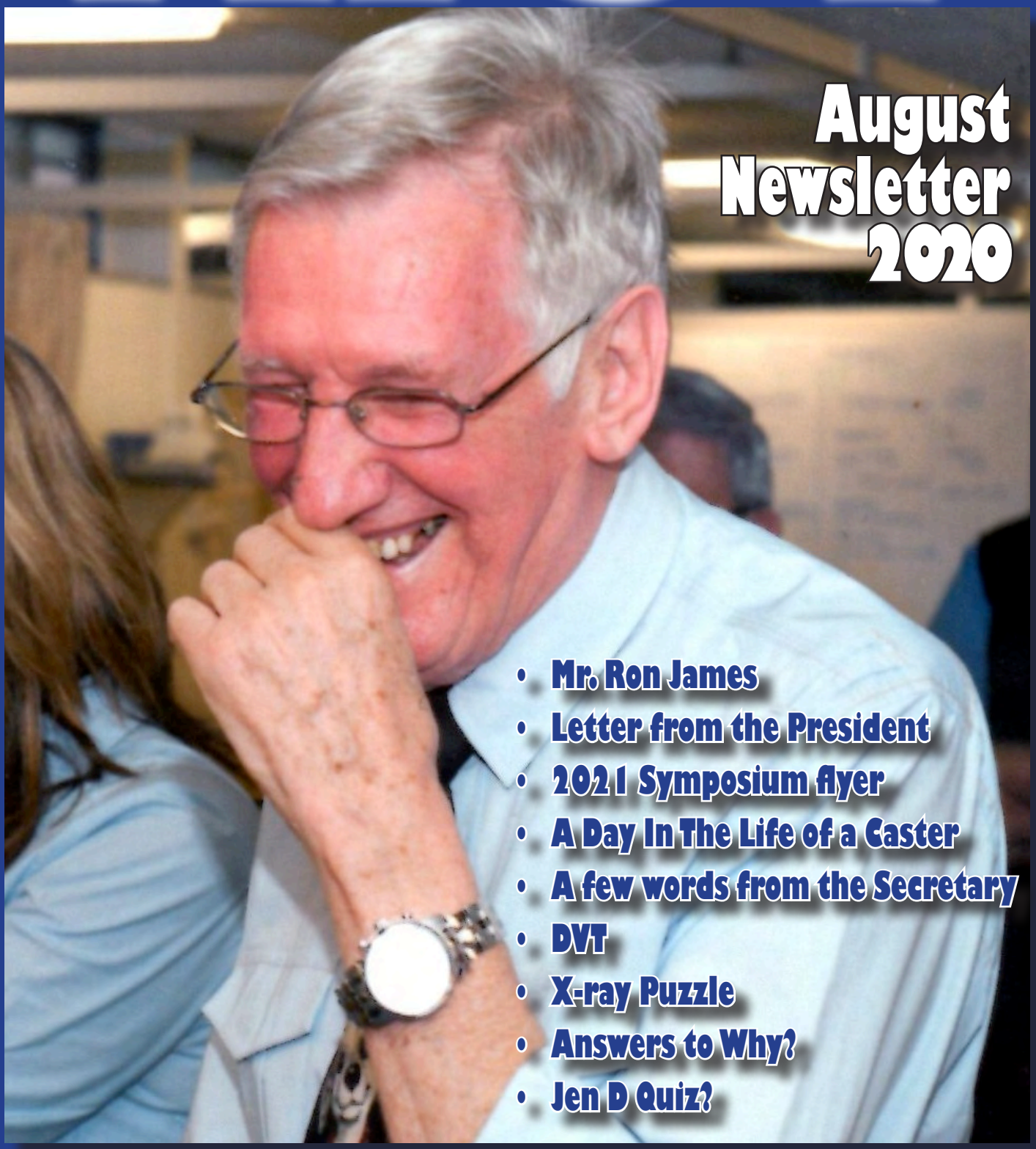
Australian Institute of Orthopaedic Technologists Inc.

AIOT newsletter



August Newsletter 2020

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- Letter from the President
- 2021 Symposium flyer
- A Day In The Life of a Caster
- A few words from the Secretary
- DVT
- X-ray Puzzle
- Answers to Why?
- Jen D Quiz?

You are invited to the annual

AIOT Symposium

On the weekend of August 14th and 15th 2021 in Cairns, tropical north Queensland.

Expect an action-packed weekend of formal learning and practical challenges, whilst soaking up the Queensland sun and networking with colleagues from across the country.

Location: Cairns Colonial Club Resort, 18-26 Cannon St Manunda QLD

Price: $250pp for AIOT members
$300pp including AIOT membership

Inclusions:

- Two nights of twin-share resort accommodation (Friday 13th and Saturday 14th)
- All meals, snacks, tea and coffee
- Exciting conference itinerary
- Dinner and drinks at Salt House restaurant on Saturday night
- Access to three outdoor swimming pools, poolside bar and café, and 11 acres of lush tropical gardens

Places are limited! Register by June 1 2021

Email Indra to secure your spot: indragowan@outlook.com

Letter from the President.

Hello Fellow cast room staff.

Welcome to the August edition of the AIOT Newsletter. Unfortunately for us all this year has been nothing short of momentous, I trust that you and your families are coping with the current situation, and with not too much disruption to your daily life. The AIOT Executive have made a decision on up-coming membership fees based on the current health crisis. Wendy Quinn has the details on this in her page 'A word from the Secretary'.

As you aware the 2020 AIOT National Conference was cancelled. The AIOT Executive have rebooked the conference for August 2021 in Cairns.

Due to the cancellation of the conference, the AGM has been postponed also. The AGM will more than likely be held at the conference next year.

In Certificate IV news the AIOT is looking forward to a decision of the new course being finalised through Skills IQ in NSW. The timeframe for the decision may take some time due to the current health situation, the Association will notify members via the website following confirmation of the decision.

Recently the AIOT along with Queensland Health and the AWU (Australian Workers Union) endorsed the implementation of the superseded AIOT training modules for new trainees in Queensland health facilities. The decision will assist trainees to start completing the course modules (1-4) depending on the requirement of each individual health facility, whether Metropolitan or Regional. Please log into the QHEPS (Queensland Health Website) if you are a Queensland Health Employee click on employment conditions, click on Operational services. The information will assist you to apply and start the training through your supervisor or Manager if a training position is available. Please feel free to contact the AIOT Website if you would like further information on the training pathway.

On a sad note, one of our valued colleagues Mr Ron James passed away in April this year. Ron was one of the founding members of the AIOT and was instrumental in it's inception. Trish Evans has written a memorium to Ron, and in respect we dedicate this issue to Ron.

Until next time wear your PPE, and be safe!

Regards,
Terry James

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Vale Ron James

Ron James was a highly respected Orthopaedic and Casting Technician at Sir Charles Gairdner Hospital in Perth WA and he passed away on Saturday 25th April this year.

Ron achieved great things in the casting world and I know he was much appreciated and loved by his colleagues and his patients. He had a great enthusiasm for his work and gave his patients the very best of care. He had a wonderful sense of humour and this was appreciated by his patients and his work colleagues. He was also well known for the artwork he encouraged people to do on their casts keeping a selection for the "gallery" in the Plaster Clinic.

I believe he was a founding member of AIOT, the Australian Institute of Orthopaedic Technologists, and even if not a founding member, he was responsible for it continuing and to it reaching out to other states and to all the professions casting across the states and Australia. This included me as a physiotherapist in NSW. AIOT was adopted across Australia and now it is the only association for casting staff after the Queensland based association folded.

Ron was also a great teacher and his enthusiasm was infectious benefiting many staff who worked with him over the years. I also appreciated his sense of humour, at one AIOT conference I attended at Charlie Gairdner Hospital, I was unwell and had visits to the ED department while I was there attending the conference, he awarded me a certificate and a bottle of champagne for being the attendee that spent the most time in ED during the conference!

I enjoyed keeping in touch with him over the years, even if just at Christmas with exchanged cards and the occasional phone call, if he rang me he always started with "have you got time to talk, I can ring back" and I was always very pleased to hear from him. I also enjoyed seeing him when I was last in Perth about 3 years ago, we met over coffee and that was when I realised he was struggling with his health.

He was a conscientious worker and person who gave a lot to his work and through this to his community. He was a gentleman and had a humility I greatly admired. I consider that I was fortunate to know him. Thank you Ron, Rest in Peace.

Trish Evans

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A Day in the Life of a Beginner Caster

Cecilia Wade EN
Austin Health

Terrifying, first day and I have a cast saw in my hand and I am supposed to remove a synthetic cast. It is extremely busy and all of the nursing team are under the pump with patients sitting in the waiting room with all types of fractures.

My insides are churning over and I am hoping I don't cut the patient's limb off or something similar. I have been shown how to use the saw and told all the do's and don'ts of removing a synthetic cast.

Check the casting saw has been maintained recently and the blade is on correctly. Be sure to explain to the patient what you are about to do to make them feel comfortable and safe. Don't drag the saw, hold it correctly so it doesn't bounce and hit you or the patient, ensure you don't cut the patient and keep an eye on the patient their eyes aren't rolling into the back of their head in a faint.

Never say to the patient it won't hurt or burn them, because it can. But used correctly, you'll always be safe. Have a firm grip on the saw, regularly check the heat of the blade ensuring the blade goes in and out of the cast, avoiding any bony prominences. Cut medially and laterally as shown by your senior caster or mentor. Check the neurovascular status of the limb, skin integrity and for any unusual swelling or blood staining. Most of all keep your back straight and well supported to avoid any injuries.

So with all these instructions in mind, and avoiding eye contact with the patient so they don't see the fear in your eyes, forge ahead and jump right in. Mind you it is very helpful also if you have a few practice goes with casting colleagues before attempting to remove a cast on a real life patient.

To be an Orthopaedic Caster, you have to be aware this is a long life passion. You will make mistakes but you will mostly have successes. You will never stop learning and the more you learn the more there is to learn. You will never be bored while you work in Orthopaedics. Your mentor will be the making of you as a caster. It is their passion and enthusiasm that will get you through the more challenging times as at times it can test your commitment.

You'll work with children who throw tantrums, scream in your face, cry, and wriggle and kick you. You may have parents who faint on you and they aren't even the patient. But quite often your patient will make you realise why you started in the first place. They will remind you why you love it.

Once you have mastered removing a cast, you'll move onto back slabs, basic synthetic casts and then onto more advanced casting. This could take you a long time. It took me three to four years to become reasonably confident and one of the last to qualify with a Certificate IV in Casting.

Unfortunately, this course became extinct in the year that I qualified but hopefully with a bit of luck, this will become available again to all those passionate about making Orthopaedic casting a career. I am now in my seventh year as an Orthopaedic Caster and have loved every minute of it.

Hopefully you do too.
Cecilia

X-Ray Jigsaw

For your viewing pleasure!

Who Am I?

- I am a Y shaped or comminuted fracture involving the base of the thumb metacarpal. _____
- I am Paediatric intra articular fracture of the anterolateral part of the distal tibial epiphysis. _____
- I am a symptomatic fracture that is not visible radiographically until callus formation or bone resorption is seen more than two weeks after onset of symptoms. _____
- I am a fracture of the neck of the fibula and the anterior Tib/Fib ligament is avulsed. _____
- I am a fracture of the lower end of the radius with dislocation of the ulna at the wrist. _____

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- Secure and tailored fit for most patients through the extra-long waist strap of which can be adjusted in length.
- Increased comfort through the adjustable padded neck strap reducing the pressure on the neck.
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Ref.- No.	Size	Measurements	Unit
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A few words from the AIOT Secretary

Hi Everyone,

Hope you and your families are doing ok during these very trying times both professionally and personally...
Our hearts go out to our friends and colleagues down in Melbourne and all of Victoria. Please know we are with you in your extended Covid lockdown and are here fully supporting you in any way we can….. never ever did we think we would see face shields and masks become all day, every day wear at work…

Due to Covid lockdowns and travel restrictions the executive board sadly decided it was in our best interests to cancel our anticipated 2020 Conference and concentrate on surviving the pandemic.
As we have been focusing on taking care of ourselves, family, work colleagues and patients, the AIOT has been less active as a group, and feel we have not given value to members as we usually would have.

The executive board decided to not charge a membership fee for 2020, so no fees are due until the 1st of July 2021. Anyone who is not a member and wishes to become a member can do so they just need to send in their application to me.

It will be so good to get together with everyone next year with our highly anticipated AIOT 2021 Symposium on the weekend of the 14th & 15th of August here in Cairns. We are having an immersive Survivor- theme, it will be good fun and all the usual educational plastering sessions and games, networking and so much more...

Our work days here at the Cairns Hospital have become so busy, people are still enjoying their freedom and our lockdown is almost non-existent, so we are busier than ever, still a little short staffed but hopefully that is changing soon…I am hoping that I can stay in touch every month just to keep up to date with everyone….

A big thank you to Jenny and John for putting together this newsletter and we will be sending out another one around Christmas time…

Take good care of yourselves,
Wendy

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DVT Deep Vein Thrombosis

Indra Gowan..
Western Hospital Victoria

What is it?

Deep Vein Thrombosis (DVT) is a blood clot in a deep vein of the body, usually in the leg1. DVT's are dangerous, as they pose a risk of dislodging and becoming an embolus. An embolus is a mass travelling through the bloodstream which can get stuck in small blood vessels, occluding the flow of blood. If this happens in the lungs, it is called a pulmonary embolism and is life-threatening[1].

Aetiology

The factors contributing to development of DVT are described by Virchow's triad: blood stasis, hypercoagulation and vessel trauma.

Venous stasis

The walls of healthy blood vessels are smooth, which helps blood flow continuously and freely. Blood contains natural anticoagulant factors, and when flowing smoothly these substances are mixed evenly and prevent clotting[2]. When anticoagulant factors cannot continuously move through the blood, it is more likely to form clots. Venous stasis most commonly occurs in the legs, as leg veins must fight gravity to return blood to the heart. If immobilised for a long period, the muscle pumps that usually push blood through these veins do not function, which causes blood to pool and settle in the deep veins[3].

Hypercoagulation

Blood naturally coagulates around matter in the circulatory system. During injury or surgery; debris such as fat, collagen, or loose tissue can enter the blood vessels and settle in the deep veins. Blood gathers around this foreign matter and coagulates, forming clots in these vessels[2].

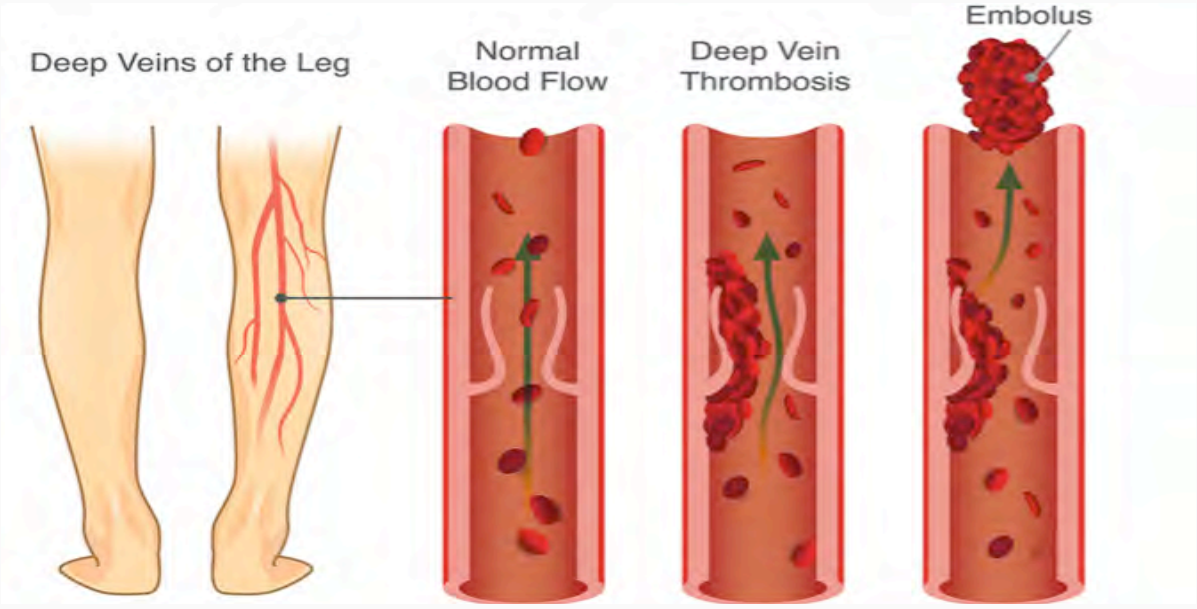


Figure 1: formation of deep vein thrombosis leading to an embolus[4].

Vessel trauma

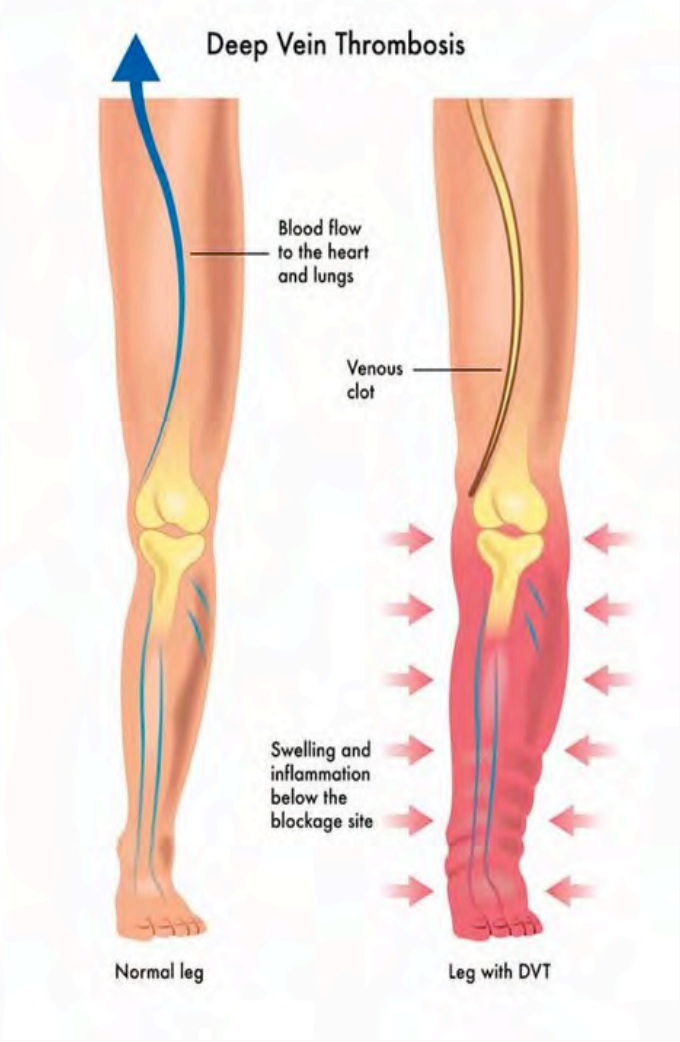
Damage to the walls of veins naturally causes the release of clotting factors. This is a protective mechanism to prevent blood loss when a vessel is cut or bruised. If a patient has been injured or undergone surgery, they are more likely to have damage to their blood vessels and are thus at greater risk of clotting and DVT[2].

Symptoms

Symptoms of DVT occur in the leg affected by the blood clot and include:

- Swelling[3]
- Pain or tenderness[3]
- Distended veins[3]
- Red or discoloured skin[3]
- A firmness or thickening of the vein called a "cord"[2]

DVT can however be asymptomatic.



Risk factors

Risk factors for DVT can all be related to Virchow's triad of venous stasis, hypercoagulation and vessel trauma.

Risk factors contributing to venous stasis[6]:

- Immobility
- Paralysis
- Plaster cast in situ
- Long haul flight
  * Bed-bound in hospital or nursing home
- Varicose veins
- Venous obstruction
  *Obesity
  *Pregnancy
  *Tumour
- Left ventricle dysfunction
- Poor venous return
  *Sedentary lifestyle
  *Obesity
- Atrial fibrillation

Risk factors contributing to hypercoagulation6:

- Genetic factors
- High levels of oestrogen
  *Pregnancy
  *Hormone therapy
  *Birth control medication
- Malignancy
- Infection or Sepsis
- Inflammatory bowel disease
- Thrombophilia
- Trauma/surgery to the lower extremity, hip, abdomen or pelvis

Risk factors contributing to vascular wall injury6:

- Smoking
- Trauma or surgery
- Chemical irritation
- Injection of foreign substance
- Venepuncture
- Heart valve disease or replacement
- Catheter in situ
- Atherosclerosis
- Hypertension

Pulmonary Embolism

The most serious complication of a DVT is a pulmonary embolism (PE). A PE occurs when foreign material such as a thrombus enters the bloodstream, travels to the lungs and blocks one of the arteries in the lungs[7]. Artery blockage in the lungs causes lack of oxygen and subsequent death of lung tissue. When lung tissue dies, the body's ability to distribute oxygen to vital organs is diminished. This lack of oxygen can ultimately cause heart failure and death[7].

Symptoms of PE include[8]:

- Shortness of breath
- Sudden onset of chest pain
- Coughing
- Spitting up or vomiting blood
- Sweating
- Back ache

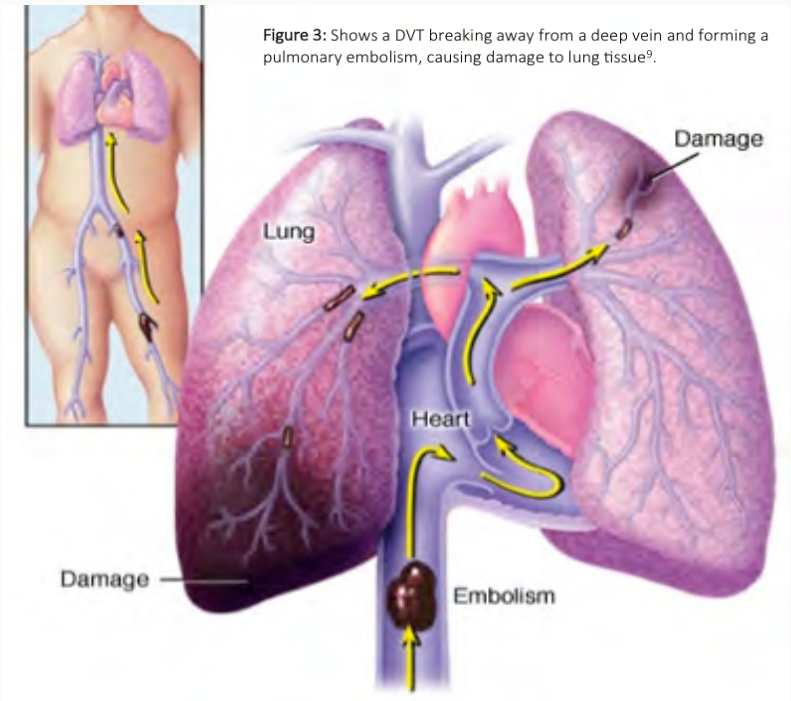


Figure 3: Shows a DVT breaking away from a deep vein and forming a pulmonary embolism, causing damage to lung tissue[9].

Prevention of DVT

Acute[3]:

- Anticoagulants
- Pressure stockings
- Physical activity

General[3]:

- Reduce body fat
- Quit smoking
- Maintain healthy diet

Treatment

DVT's are blood clots and are thus treated with anticoagulants; drugs that target the coagulation cascade and prevent blood clot formation. The two most commonly used anticoagulants are warfarin and heparin[3]:

	Heparin	Warfarin
Mechanism of action	Inactivates thrombin and factor Xa	Inhibits synthesis of clotting factors
Route	Intravenous or subcutaneous injection	Oral
Onset	Rapid onset	Slow onset
Duration	Brief (hours)	Prolonged (days)

Table 1: Comparison of the anticoagulants Warfarin and Heparin.

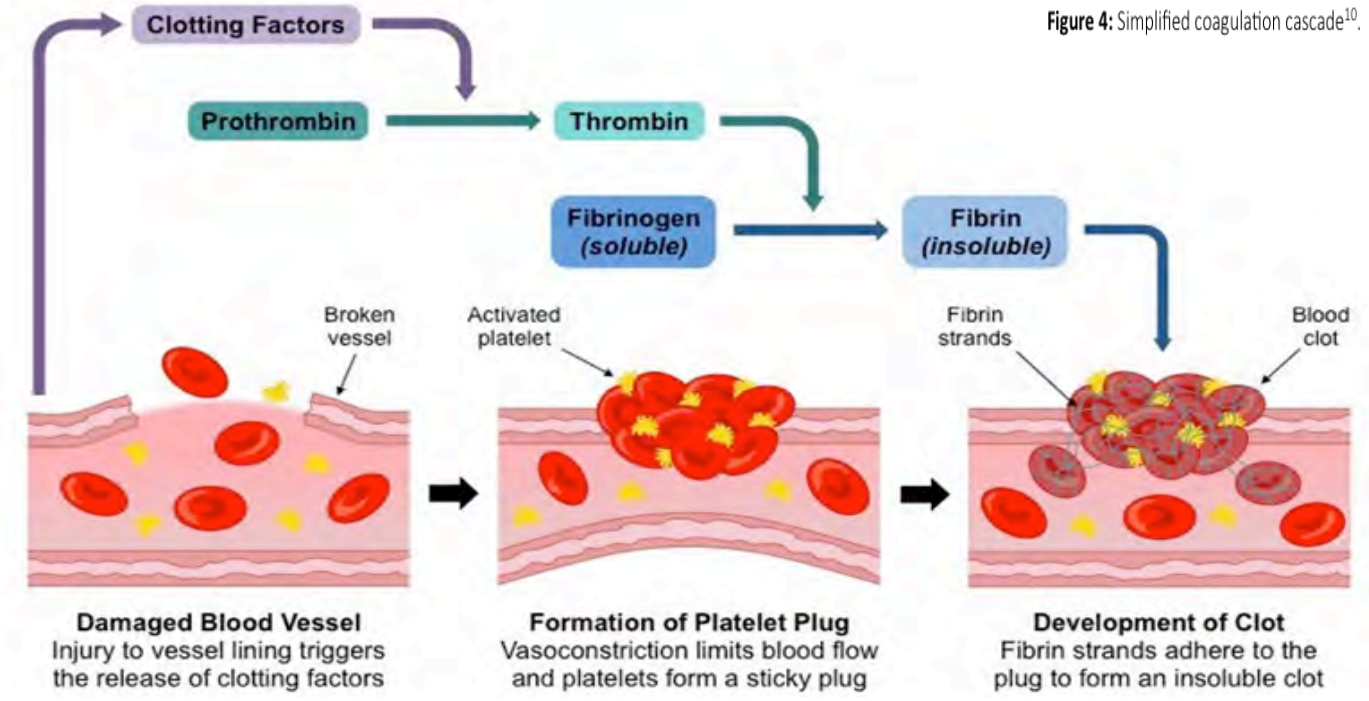


Figure 4: Simplified coagulation cascade[10].

Diagnosis of DVT

When a patient displays signs and symptoms of DVT, doctors perform one of the following diagnostic tests to confirm the diagnosis:

Duplex ultrasound

The most common test for DVT, a duplex ultrasound combines classic ultrasound technology with Doppler imaging. This generates a coloured ultrasound which shows blood moving throughout the body. Duplex ultrasound is painless, non-invasive and does not use radiation[2].

Magnetic resonance imaging

Magnetic resonance imaging or MRI produces cross-sectional images of the body, showing veins and other structures in great detail. It is painless, non-invasive and radiation-free, however cannot be used on patients with any metal in their body[2].

Venography

Venography is the gold standard for diagnosis of DVT. It involves injection of contrast dye into the foot, which mixes with blood and flows throughout the circulation. Subsequent X-ray shows any blockages in the veins of the leg. Venography is rarely used however as it is invasive and uses radiation[2].

How does it affect casting?

Having a fracture, having surgery and being in a cast are all risk factors for the development of DVT[2]. It is important therefore for plaster technicians to be able to recognise signs of DVT, as it can develop quickly and be life threatening. If a patient is showing key symptoms such as gross swelling, heat or redness in their limb; a doctor should be consulted immediately. Patients should also be advised to elevate their limb, wiggle their toes often, and regularly move joints that are not immobilised. Additionally, to present to the emergency department should they feel aching in their leg or experience prolonged gross swelling.

Bibliography

1. Deep vein thrombosis [Internet]. Healthywa.wa.gov.au. 2020 [cited 4 June 2020]. Available from: https://healthywa.wa.gov.au/Articles/A_E/Deep-vein-thrombosis
2. Deep Vein Thrombosis - OrthoInfo - AAOS [Internet]. Orthoinfo.org. 2020 [cited 4 June 2020]. Available from: https://www.orthoinfo.org/en/diseases--conditions/deep-vein-thrombosis/
3. Deep vein thrombosis [Internet]. Betterhealth.vic.gov.au. 2020 [cited 4 June 2020]. Available from: https://www.betterhealth.vic.gov.au/health/conditionsandtreatments/deep-vein-thrombosis
4. Lower Limb Deep Vein Thrombosis — Camperdown Vascular Laboratory - State of the Art Technology for Vascular Testing [Internet]. Camperdown Vascular Laboratory - State of the Art Technology for Vascular Testing. 2020 [cited 4 June 2020]. Available from: https://www.vascularlaboratory.net/lower-limb-deep-vein-thrombosis
5. Brown, J. Deep Vein Thrombosis and Pulmonary Embolus: Shared Cause, Different Symptoms - University Health News [Internet]. University Health News. 2020 [cited 4 June 2020]. Available from: https://universityhealthnews.com/daily/heart-health/deep-vein-thrombosis-pulmonary-embolus-shared-cause-different-symptoms/
6. Koon Ho, W. Deep Vein Thrombosis risks and diagnosis – RACGP [Internet]. Royal Australian College of Physicians. 2020 [cited June 4 2020]. Available from: https://www.racgp.org.au/download/documents/AFP/2010/July/201007ho.pdf
7. Pulmonary Embolism [Internet]. Betterhealth.vic.gov.au. 2020 [cited 4 June 2020]. Available from: https://www.healthdirect.gov.au/pulmonary-embolism
8. Tarbox, A et al. Pulmonary Embolism. 2020 [cited June 4 2020]. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3665123/
9. Pulmonary Embolism symptoms and causes [Internet]. Mayo Clinic. 2020 [cited 4 June 2020] Available from: https://www.mayoclinic.org/diseases-conditions/pulmonary-embolism/symptoms-causes/syc-20354647
10. Coagulation cascade [Internet]. 2020 [cited June 4 2020]. Available from: https://ib.bioninja.com.au/standard-level/topic-6-human-physiology/63-defence-against-infectio/clotting.html

PERFORMANCE HEALTH

BREATHOPRENE WRIST SPLINT

Left	Right	Size	Circumference
DTM-45099	DTM-45100	XS	<14cm
DTM-45101	DTM-45102	S	14 - 16.5cm
DTM-45103	DTM-45104	M	16.5 - 18.4cm
DTM-45105	DTM-45106	L	18.4 - 20.3cm
DTM-45107	DTM-45108	XL	20.3 - 22.2cm

ROLYAN SHOULDER IMMOBILISER

Code	Size	Colour	Length
PAT-A545800-1	X-Small	Blue	up to 28cm
PAT-A545801-1	Small	Blue	28cm
PAT-A545802-1	Medium	Blue	36cm
PAT-A545803-1	Large	Blue	43cm
PAT-A545804-1	X-Large	Blue	51cm

VULKAN MESH ARM SLING

Code	Size	Colour	Length
VLK-3289S	Small	Blue	25 - 28cm
VLK-3289M	Medium	Blue	28 - 30cm
VLK-3289L	Large	Blue	30 - 33cm
VLK-3289XL	X-Large	Blue	33 - 36cm

ROLYAN AQUAFORM HUMERUS FRACTURE BRACE

Fabricated from 2.4mm, 4% perforated Aquaplast®-T material for maximum support.

Left	Right	Size	
PAT-A175131	PAT-A175130	S	21.6 - 28.2cm
PAT-A175133	PAT-A175132	M	28.3 - 37.1cm
PAT-A175135	PAT-A175134	L	37.2 - 45.7cm

WHEATON PAVLIK HARNESS

Code	Size	Age Months	Chest Circumference
WHE-L1620-P	Premie		12" - 14"
WHE-L1620-S	Small	0 - 3	14" - 16"
WHE-L1620-M	Medium	3 - 6	16" - 18"
WHE-L1620-L	Large	6 - 9	18" - 21"
WHE-L1620-XL	X-Large		21" +

TRI-PANEL KNEE IMMOBILISER

Code	Size
MAM-PHYKNEEIMM20W	20" Panel
MAM-PHYKNEEIMM24W	24" Panel

BROWNMED HERBST CRADLE

Code	Size	US Men	US Women
BMI-04020	Small	≤ 5	≤ 6
BMI-04021	Medium	5 - 9.5	6 - 10.5
BMI-04022	Large	> 9.5	> 10.5

VULKAN STABILITY ANKLE BRACE

Code	Size	US Men	US Women
VLK-4005XS	X-Small	5.5 - 7	6.5 - 8
VLK-4005S	Small	7.5 - 9	8.5 - 10
VLK-4005M	Medium	9.5 - 11	10.5 - 12
VLK-4005L	Large	11.5 - 13	12.5 - 14
VLK-4005XL	X-Large	13.5 - 15	14.5 - 16

VULKAN FIXED WALKER

27.9cm	43cm	Size	US Men	US Women
VLK-3007S	VLK-3009S	S	4.5 - 7	5 - 8.5
VLK-3007M	VLK-3009M	M	7.5 - 10	9 - 11
VLK-3007L	VLK-3009L	L	10.5 - 12.5	11.5 - 13.5
VLK-3007XL	VLK-3009XL	XL	12.5+	13.5+

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AquaCast Liner, Water Resistant Cast Padding, 12/Box

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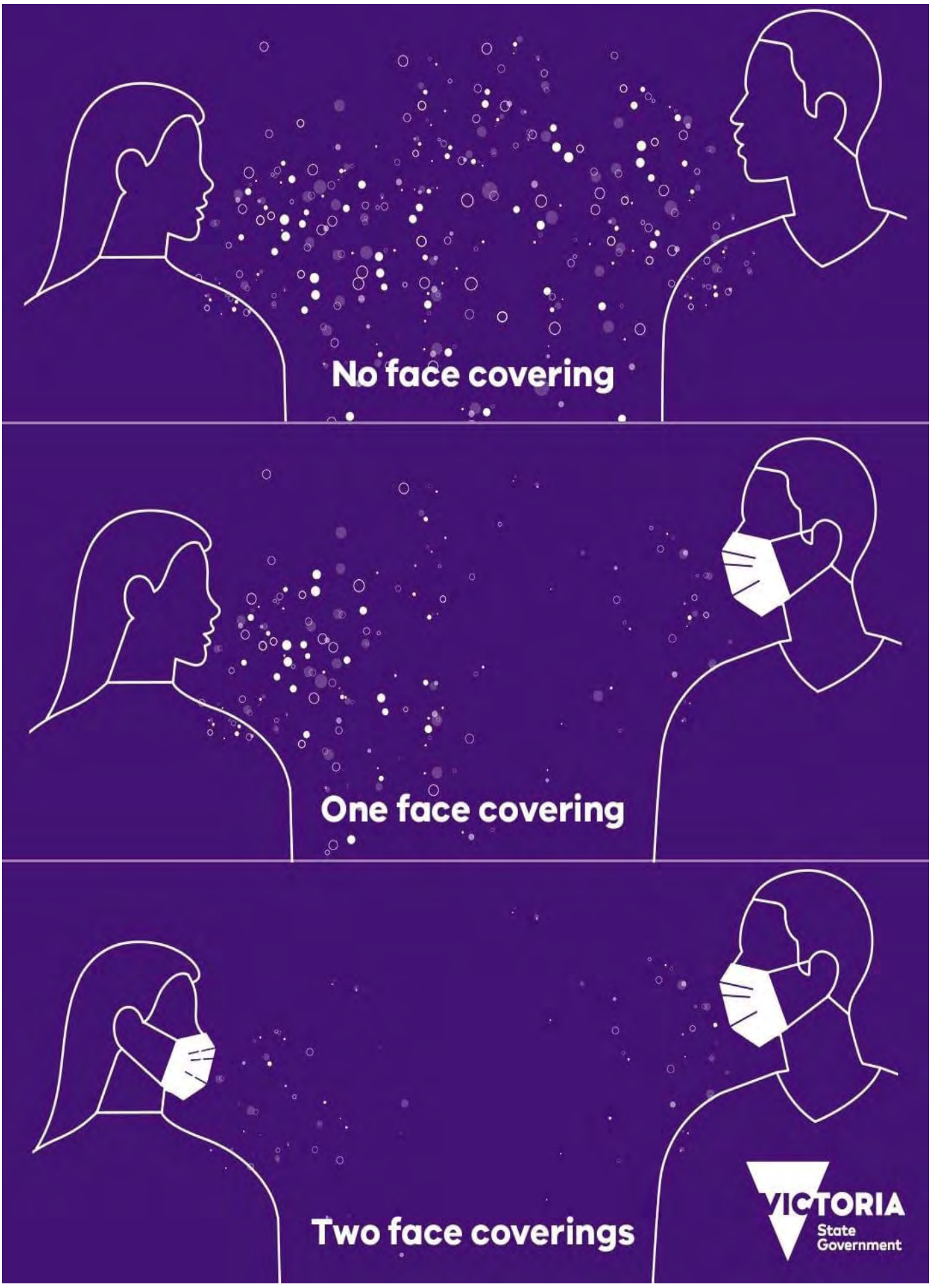

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Soft or Semi Rigid Casting Tape For Supracondylar Fractures

John Kinealy

Interesting article published in the Journal Of Paediatric Orthopaedics Volume 38, No 4 April 2018. At Western Hospital we have used a similar method for many years when a full Above elbow cast is prescribed. Our method is to apply stockinette and padding, then incorporate a Dynacast Prelude posterior splint. The splint is held In-Situ with two layers (50% coverage) of Deltacast Soft. If compliance is an issue Soft is substituted in exactly the same way, with Deltacast Elite. The benefits are Deltacast Soft can be unwound, and Deltacast Elite can be cut with scissors if only two layers are applied. Keep in mind full casts are not recommended in grossly swollen limbs.

ORIGINAL ARTICLE

A Removable Long-arm Soft Cast to Treat Nondisplaced Pediatric Elbow Fractures: A Randomized, Controlled Trial

Mauricio Silva, MD,† Gal Sadlik, BA,* Tigran Avoian, MD,* and Edward Ebramzadeh, PhD*†‡*

Background: The ideal type of immobilization for nondisplaced pediatric elbow fractures has not been established. We hypothesized that the use of a long-arm cylinder made of soft cast material will result in similar outcomes to those obtained with a traditional long-arm hard cast.

Methods: We randomly assigned 100 consecutive children who presented with a closed, nondisplaced, type I supracondylar humeral fracture or an occult, closed, acute elbow injury, to 1 of 2 groups: group A (n = 50) received a long-arm, traditional fiberglass (hard) cast. Group B (n = 50) received a long-arm, soft fiberglass cast. After 4 weeks, the cast was removed in group A by a member of our staff using a cast saw, and in group B by one of the patient's parents by rolling back the soft fiberglass material. We compared the amount of fracture displacement and/or angulation, recovery of range of motion, elbow pain, and patient satisfaction.

Results: There were no instances of unplanned removal of the cast by the patient or parent. No evidence of fracture displacement or angulation was seen in either group. The final carrying angle of the affected elbow was nearly identical of that of the normal, contralateral elbow in both groups ($P = 0.64$). At the latest follow-up appointment, elbows in groups A and B had a similar mean arc of motion (156 vs. 154 degrees; $P = 0.45$), and had achieved identical relative arc of motion of 99.6% and 99.5% of that of the normal, contralateral side, respectively ($P = 0.94$). Main pain scores were low and comparable over the study period. All patients in both groups reported the highest rate of satisfaction at the eighth week of follow-up.

Conclusions: The results indicate that children with nondisplaced supracondylar humeral fractures can be successfully managed with the use of a removable long-arm soft cast, maintaining fracture alignment and resulting in comparable rates of range of motion, pain, and patient satisfaction. The use of a removable immobilization that can reliably maintain fracture alignment and result in similar outcomes, while minimizing the risk of noncompliance, could be advantageous. Although we elected to remove the soft cast during a scheduled follow-up, it appears that such immobilization could be removed easily and safely at home, potentially resulting in a lower number of patient visits, decreased health care costs, and higher patient/parent satisfaction.

Level of Evidence: Level I.

Key Words: supracondylar humerus fracture, immobilization, removable, nondisplaced

(*J Pediatr Orthop* 2018;38:223–229)

Fractures of the supracondylar region of the humerus are among the most common pediatric musculoskeletal injuries requiring the attention of an orthopaedic surgeon.[1] Children with nondisplaced fractures (type I),[2] as well as those who have a history of elbow trauma and in whom the radiographs are negative for fracture but have a positive fat pad sign, have been traditionally managed with nonsurgical immobilization.[3,4] Recently published clinical guidelines support such practice,[5] based on the result of 2 prospective studies in which either collar and cuff or posterior splint immobilization were utilized.[6,7] When compared with collar and cuff immobilization, posterior splints resulted in better pain relief within the first 2 weeks of injury; however, critical outcomes including the incidence of cubitus varus, hyperextensions, and loss of reduction, were not reported.

The use of removable splints has been demonstrated advantageous for the treatment of stable buckle fractures of the distal radius,[8–11] with treatment outcomes that are comparable to those obtained with the traditional use of cast immobilization.[12] Advocates of splint immobilization highlight the fact that splints can be taken off easily, avoiding the noise associated with the use of a cast saw, since cast saw noise has frequently been described as one of the most negative aspects of cast use from a child's perspective.[13–15]

The ideal type of immobilization for nondisplaced pediatric elbow fractures has not been established. Although posterior splints appear to be an attractive option,[6,7,16] a recent retrospective analysis on the use of posterior splints for the treatment of Gartland type I supracondylar humeral fractures (SCHFs) reported a small percentage of fractures demonstrating displacement during treatment.[16] The potential for noncompliance with the use of posterior splints and other easily removable devices, especially in the older pediatric population, is also a concern. Alternatively, the use of a long-arm cylinder cast made of soft cast casting tape that can be removed by the patient's parent with a greater effort than that required to remove a posterior splint or a brace

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Answers to Why?

From the last issue

John Kinealy

1. **Is the proximal end of a Clavicular fracture elevated?**

   This occurs because Sternocleinomastiod elevates the proximal fragment.

https://www.visiblebody.com/blog/learn-muscle-anatomy-sternocleidomastoid 24?7/2020

2. **Does a TCC cast assist in the healing of Ulcers?**

   Yes it does. The plantar pressures are redistributed when the limb is placed into a cast.

3. **Do isolated tibial fractures in children angulate into varus?**

   Yes they can. The Fibula can act like a bow and push the tibia into varus.

4. **Does a high fibular fracture require ankle x-rays as well?**

   Yes. A proximal fibula fracture may have originated at the ankle which has resulted in a Maisonneuve fracture. These devastating injuries can be missed and are consisered a syndesmotic injury.

   What is the Syndesmosis?

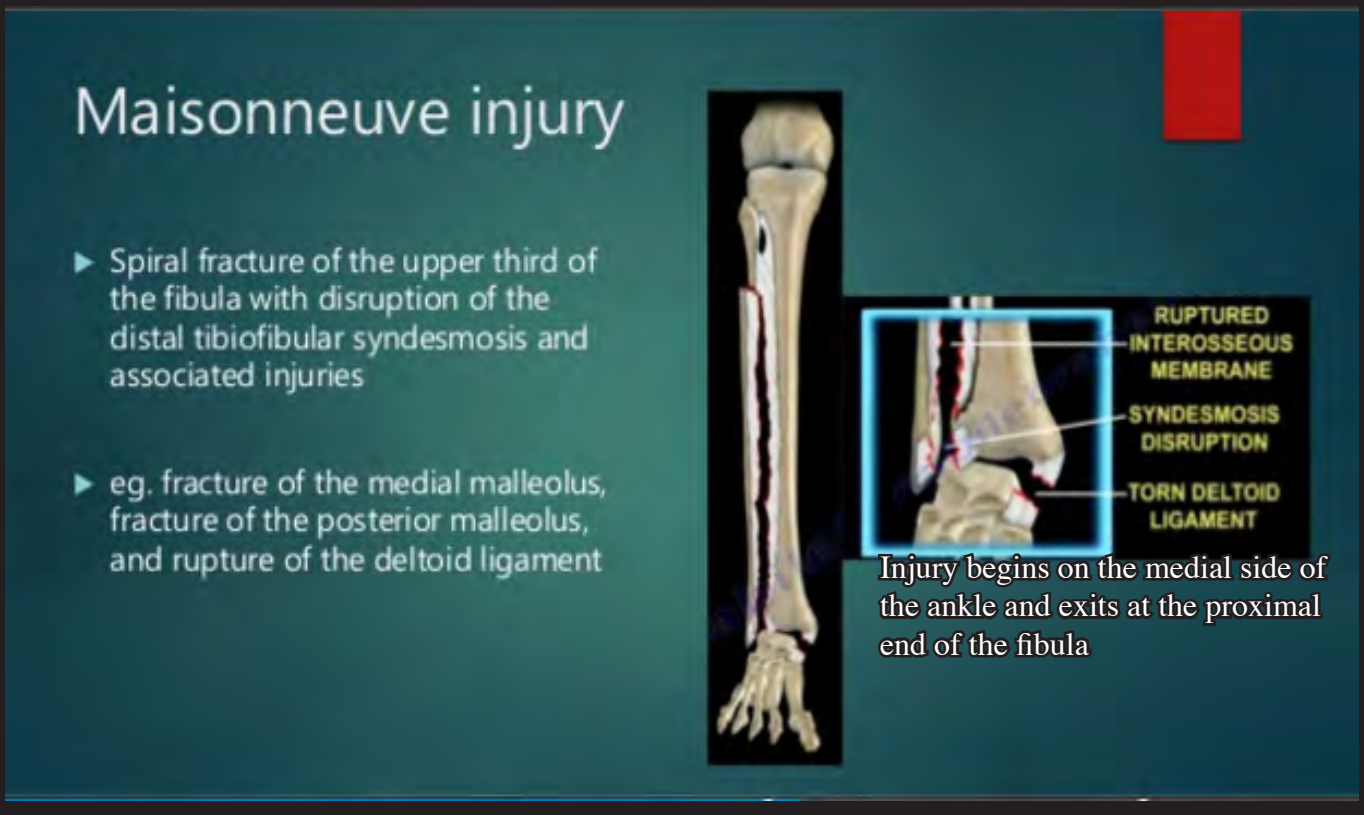
   The syndesmosis is a fibrous joint held together by ligaments. It's located near the ankle joint, between the tibia, or shinbone, and the distal fibula, or outside leg bone. That's why it's also called the distal tibiofibular syndesmosis. It's made up of several ligaments. The primary ones are:

   * **anterior inferior tibiofibular ligament**
   * **posterior inferior tibiofibular ligament**
   * **interosseous ligament**
   * **transverse tibiofibular ligament**

   The syndesmosis ligament acts as a shock absorber, providing stability and support for your ankle. Its main job is to align the tibia and fibula and keep them from spreading too far apart.

https://www.healthline.com/health/syndesmosis 3/8/2020

X-ray Images taken from; https://emdaily.cooperhealth.org/content/critical-cases-not-just-ankle-sprain-demystifying-maisonneuve-fracture 3/8/2020



https://www.slideshare.net/lq0/maisonneuve-fracture-64327755 3/8/2020 Explanation

5. **Does the thumb hurt to move following a Colles' fracture?**

   Yes it can. Displaced Colles fractures can bruise the EPL tendon and sheath. A late complication can be rupture of the EPL.

Image taken from https://mikereinold.com/complications-following-distal-radius/ 3/8/2020

6. **Are most Supracondylar fractures flexed greater than 90 degrees?**

   Yes but only if posteriorly displaced or angulated as flexion assists reduction.

   Image to the left demonstrates a posterior type 2 Gartland.

   The image to the right demonstrates correct through flexion and a Dynacast Prelude splint.

7. **Is the thumb in a Bennett's fracture cast placed in extension and abduction?**

   Yes this position of the thumb is required to maintain the reduction if not ORIF'd as the thumb ends up being flexed and adducted.

Image taken from https://surgeryreference.aofoundation.org/orthopedic-trauma/adult-trauma/thumb/metacarpal-bennett-fracture/k-wire-fixation#introduction 3/8/2020

8. **Are most ankle fractures placed in plantargrade?**

   Yes, they are as this position prevents contractures.

9. **Is POP better than synthetics when treating a shortened humerus?**

   Yes POP has an advantage over synthetics in treating shortened humeral fractures because synthetics are lightweight and cannot distract like a POP slab can.

10. **Is a well moulded arch required when treating a Lisfranc injury?**

    Yes it is. This type of fracture requires a well moulded arch to prevent the normal bony architecture from collapsing.

11. **Don't we apply a scaphoid cast on a child aged 4?**

    The scaphoid does not present or ossify until around the age of four to six.

capitate: 1-3 months

hamate: 2-4 months

triquetrum: 2-3 years

lunate: 2-4 years

scaphoid: 4-6 years

trapezium: 4-6 years

trapezoid: 4-6 years

pisiform: 8-12 years

Image and text taken from; https://radiopaedia.org/articles/ossification-centres-of-the-wrist

12. **Is three point moulding essential when casting displaced or angulated fractures?**

    Yes it is. Muscle pull and gravity can easily malalign or displace a fracture that does not have three point moulding.

13. **Should windows always be replaced especially in acute trauma casts?**

    Yes they should. Swelling seeks the point of least resistance and if not replaced and held In-Situ the swelling can herinate out through the window.

14. **Are proximal third radial fractures placed in supination?**

    Yes, angulated/displaced unstable fractures when casted are placed into supination due the insertion or the supinator muscle. The proximal fragment supinates and the distal fragment lies in midpronation or pronation.

15. **Are metacarpal fractures placed in Position of Function?**

    Yes this position is optimal for early function of the hand and wrist once immobili sation is ceased.

16. **Are angulated Boxers' fractures best placed in a Boxers's splint rather than a volar?**

    The problem with a volar splint is it depends on the bandage holding it In-situ for its entireity, which often isn't the case. A boxers' splint covers the volar, ulnar and dorsal aspects of the hand and forearm. This splint maintains three point moulding throughout the entire treatment period, providing there is no loss in volume.

17. **Is the knee slightly flexed in an above the knee cast?**

    Slight flexion of the knee assists in both holding of the fracture and assists with balance during the gait cycle.

18. **Is a broadarm sling better for already distracted humeral fracture?**

    A broad arm sling encourages elevation whereas a Collar & Cuff which is generally used encourages distraction.

19. **Is it important to allow full MCP flexion in a short arm cast?**

    Yes full flexion is required to prevent contractures or shortening of the collateral ligaments of the MCP.

20. **Is a spica called a spica?**

    Spica is the Greek word for wheat and when you look at how a POP Hip spica is applied, it resembles a piece of wheat, just like this image.

The answers to 'When and What' will be in the next issue.

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Jen D's Quick Quiz!

1: Fractures with significant angulation & deformity may require an open reduction and _____ _____

2: An increase in the thoracic curve is called _____

3: The leading cause of perioperative death in hip arthroplasty surgery is:

A) Blood loss
B) Bone cement implantation syndrome
C) Myocardial infarction
D) Pneumonia
E) Pulmonary embolus

4: A tourniquet is being used on the arm of an adult patient to reduce hemorrhage during surgery on the hand. The maximum recommended time to leave the tourniquet continuously inflated is:

a) 60 minutes
b) 90 minutes
c) 120 minutes
d) 150 minutes
e) 180 minutes

5: Which type of fracture has the worst prognosis and which type has the best prognosis?

6: What fracture type is this? The bone is crushed due to extreme trauma, commonly in the vertebrae.

7: Which fracture is this? A fracture of the lower fibula above the level of the joint, resulting in outward displacement of the foot. (External rotation of the ankle)

8: What are five common causes of fractures?

9: What is osteogenesis imperfecta?

10: Which person should be identified to be at a greater risk of fractures while reviewing their health records? Select all that applies.

a) With leukemia
b) With bone neoplasms
c) Who is malnourished
d) With osteoporosis
e) With hypercalcemia

11: A patient is recovering from a fractured radius that occurred 7 weeks ago. Which process of bone healing would we anticipate the patient to be experiencing?

a) Reparative
b) Remodeling
c) Inflammatory
d) Bony union

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5 months in lockdown. I'm fine. Thanks for asking.