

# Art of EM: RLS Podcast Episode

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**You're a FACEM on-call overnight in a resource-limited Pacific Island Emergency Department, and are called in when an indigenous male in his 50s presents short of breath.**

OE: BP 200/70

Severe respiratory distress, unable to talk

SpO2 85% on non-rebreather mask at 15L O2/min

T 35.6

Peripherally mottled

Diffuse inspiratory lung crackles

The xray machine is broken, and there is no laboratory testing available overnight.

**Q1. What bedside tests could you use for this patient, and why?**

Test	Rationale
Focused cardiac ultrasound	Screen for RV impairment as possible evidence of PE, pericardial tamponade necessitating drainage.
Lung ultrasound	Screen for drainable pleural fluid to improve respiratory status, pneumothorax, B-lines as evidence of pulmonary oedema.
ECG	Screen for ischaemia, LVH, RV strain, arrhythmia

**Q2. You diagnose acute pulmonary oedema, and there is no ischaemia on the ECG.**

**What alternate treatments and monitoring are likely to be available in a resource-limited setting for you to use in this scenario, in place of the standard-of-care equivalent in your Australasian ED?**

Developed-world equivalent	Resource-limited treatment	Rationale
GTN IV or sublingual	GTN patch or paste, hydralazine	Preload reduction, and afterload reduction – may reduce the severity of AR
BiPAP	OSA machine with O2 nasal prongs underneath, or assisted BVM breaths with PEEP valve on	Reduced LV afterload, improve LV function, reduce WOB, recruit alveoli, reduce hypoxia
Telemetry	Serial ECG, auscultation/radial pulse monitoring, observe the SpO2 monitor for irregularity	Screen for arrhythmia

**Q3. The patient has a VF arrest. The island you are working on has very limited HDU facilities.**

- a. How do you decide the ceiling of care in this situation?  
Would you immediately start a routine ACLS protocol?**

This arrest may be rapidly reversible, with no need for ongoing higher level HDU care, so initial CPR and defibrillation ARE indicated for this in-hospital arrest. Basic airway management with BVM and OPA. Usual simple supportive cares.

Differentiate this from an out-of-hospital arrest – without very early defibrillation by bystanders or ambulance crew, we know the prognosis would be very poor.

However for this patient, this arrest is a prognostic marker of a poor outcome – they clearly have advanced cardiac failure, without access to advanced cardiology treatments. If it takes more than a few minutes to achieve ROSC, your patient will likely have suffered from cerebral hypoxia, there are scarce resources for post-ROSC neuro-protective care – we may have resuscitated someone with the unfortunate outcome of brain-death.

- b. What factors do you consider in deciding whether to transfer this patient to your country's central referral hospital for further care?**

Consider

- Exactly what higher level of care is currently available at the central referral hospital
- Your patient's prognosis, and whether a transfer would be prudent use of scarce resources
- Your patients pre-morbid function, and their anticipated post-ICU functional state
- Patient and family's wishes – often a preference for a patient to die at home
- Limited social support for the patient at the central referral hospital, on a distant island
- High cost of transporting a body back to the patient's home island, if they don't survive

Very important to have early family meetings, and be clear about the poor prognosis early.

Consider patient and family's spiritual needs.

**Q4. List four steps to take before starting to work with indigenous populations, as a non-indigenous practitioner:**

- a) Undertake formal training:
- Annual ACEM Global Emergency Care Workshop & Conference through The Alfred
  - Resource-Limited Critical Care unit through University of Sydney, coordinated by Dr Megan Cox, or a Masters of Public Health, or a Diploma in Tropical Medicine
  - Familiarise yourself with the World Health Assembly Resolution 72.16 (quite an impressive document – it starts with a single sentence that lasts over 2 pages!). In 2019 the assembly called for strengthened provision of emergency care as part of

universal health coverage to ensure the timely & effective delivery of life-saving health care services to those in need.

-Familiarise yourself with Dr Georgina Phillips' recent PhD work establishing Emergency Care priorities & standards regionally in the Pacific.

- b) Learn about the social and political history of the country you are working in.
- c) Language learning:
  - Medical history-taking is a challenging art even between people of the same language and culture.
  - Even those who make the effort to learn a local language will find that cross-cultural medical communication can be nuanced and fraught, and often leads to inaccurate history-taking, and the patient & clinician misunderstanding either others' priorities.
- d) Upskill in certain medical procedures/operations you may be called on to do in isolated environments:
  - Neonatal – umbilical lines
  - Obstetric – tricky deliveries
  - Orthopaedic – all types of reductions
  - Surgical

**Q5. Describe three ways emergency physicians working in culturally-diverse settings advocate for patients when working CLINICALLY:**

- a) First, simply learn what conditions affect local indigenous populations disproportionately.
- b) Tailor emergency care and disposition decisions to account for the presence of vulnerability factors and barriers to primary care and more advanced care – barriers such as financial, transport, geographical, availability of clinicians etc.
- c) Identify and collaborate with appropriate family members of patients, taking into account cultural preferences for decision-making and care roles.

**Q6. List four ways emergency physicians working in culturally-diverse settings advocate for patients OUTSIDE OF THEIR CLINICAL WORK?**

- a) Health promotion
- b) Identify & overcome barriers to emergency care access
- c) Addressing the social determinants of health
- d) Influencing health policy and creating system change

**Q7. Did you pick up any good Emergency Medicine procedural tricks, tips, hacks or pearls during your placement that you can share with us?**

1. 18-gauge needle works as a great IO on infants – won't work once bones get fully calcified though.
2. POCUS can do a lot more than you realise, especially if your XR machine breaks down! With a POCUS-guided suprapubic puncture you can deflate a crusted-up IDC balloon, you can diagnose fractures at numerous sites, obtain femoral vein access in a shocked infant.
3. We're all familiar with a 'dirty adrenaline bag' (adrenaline injected into a litre-bag of crystalloid) – but if you delve into some nursing protocols and learn the drip rate of your administration equipment, you can improve the precision of your inotrope delivery.
4. A paediatric NGT can also be used as a paediatric urinary catheter.
5. Lastly – something highly relevant in the COVID era where we are trying to minimise nebuliser use: by soldering an inhaler-sized hole in the base of a plastic water bottle to create a spacer.

**Q8. Any words of wisdom for doctors planning their first placement?**

Go with a good heart and an intention to do meaningful work – but be prepared to learn more than you teach, and receive even more than you give.

Go with the intention that this is the beginning of longterm engagement with the community. Fly-in fly-out humanitarianism usually has limited impact and frequently even leads to harms, which usually aren't apparent to the visitor.

And in the wise words of Dr Chris Curry, one of the leaders of the ACEM Global Emergency Care community:

- Be patient
- Be a supporter; lead from behind
- Be a learner, a listener, a bridge
- Maintain equanimity
- Be aware of cultural differences
- Never get angry
- Bring resolve, persistence, perseverance