

Primary healthcare and paramedics.

ACPP aims to have Paramedic Practitioners integrated into the Australasian healthcare system. Paramedic Practitioners are trained to provide both episodic care and ongoing care. We foresee that most Paramedic Practitioners will have regular and ongoing encounters with the same patient. “Continuity of care”, is a very different model of practice for most paramedics. One of the benefits of continuity of care is reducing potentially preventable hospitalisations.

Below is a summary of a recent study into “potentially preventable hospitalisations”. The rationale underpinning potentially preventable hospitalisations is that with appropriate and timely primary care interventions, admission to hospital for these conditions may not occur.

It comes as no surprise that those most likely to have potentially preventable hospitalisations are:

- People living in low socioeconomic areas
- Those living outside major cities
- Indigenous Australians

This study focussed on patients with chronic disease and found that potentially preventable hospitalisations for this cohort were:

- Older age
- Poorer health
- Use of multiple medications - polypharmacy
- Had not seen their GP because:
 - 40.5% of patients reported not being able to get an appointment with their GP when needed
 - 10.5% of patients cited cost as a reason for not seeing a GP.

[Australian Institute of Health and Welfare 2022. Coordination of health care: patient and primary care factors associated with potentially preventable hospitalisations for chronic conditions. Cat. no. CHC 8. Canberra: AIHW.](#)

ACPP is confident that Paramedics, with additional primary care skills, will practice in a wide range of public and private settings, including GP surgeries, community health centres, public and private hospitals, aged care facilities, people’s homes, education facilities, mental health settings, drug and alcohol services, non-government organisations, military, corporate and industrial settings, and ambulance services.

Paramedics with additional primary care skills will be able to assess, treat and refer patients with a broad range of health conditions. They will be healthcare generalists. Their work will include:

- Health promotion, disease prevention and early identification
- Lifestyle advice and modification
- Assessment and treatment of acute health conditions
- Assessment and treatment of chronic health conditions
- Referral and collaboration with other health professionals.

ACPP recognises that to enable paramedics to enter the broader health workforce is a very complex and delicate undertaking. Although not consistent with the ACPP definition of a [Paramedic Practitioner](#) a recent scoping exercise (link below) into Community Paramedicine illustrates the barriers and enablers of paramedics expanding their practice into primary healthcare.

[Community Paramedicine Practice Framework Scoping Exercise](#)



News snippets:

Australian College of Rural and Remote Medicine

Our relationship with the [Australian College of Rural and Remote Medicine](#) continues to grow. We are now holding regular meetings and working through various aspects of our [MOU](#). Current focal points of the MOU include CPD and mentoring. We will bring you news of these developments as they occur.

Australasian College for Emergency Medicine

ACPP recently met with senior members of the [Australasian College for Emergency Medicine](#) (ACEM). Immediately the ACEM has enabled access to number of on-line educational resources including:

- Assessing Cultural Competence
- Indigenous Health and Cultural Competency
- Critical Care Airway Management
- Ultrasound

These resources can be accessed via our website at the [ACEM affiliation page](#). We will bring you news of these developments as they occur.

WA Country Health Service

ACPP recently met with senior officials from the [WA Country Health Service](#) (WACHS). WACHS has over 100 Emergency Departments and clinics throughout Western Australia. Many of these facilities are underserved by medical professionals. WACHS is considering paramedics, with both emergency and primary care skills, to take up some of these positions. We note a recent media release by the WA Minister for Health.

[New paramedic support for Derby, Fitzroy Crossing and Halls Creek](#)

Chief Allied Health Officer (Commonwealth)

ACPP continues to advocate for paramedics working the broader healthcare systems. We recently met with the Chief Allied Health Officer (CAHO) and staff. Paramedics working in the broader health workforce was a new concept for the CAHO. The value and versatility of a paramedic with additional primary healthcare skills was seen very favourably.

Once again it became very apparent that entry into the broader health system will be very complex as there is shared responsibility between the Commonwealth and States about allied health roles, responsibilities, and funding.

The CAHO has agreed to ongoing support and advice of ACPP and has invited ACPP to present to a joint meeting of State based Chief Allied Officers.

Australasian College of Paramedicine

Since the inception of ACPP we have agitated and advocated that paramedics can contribute to the broader healthcare system. ACPP would like to publicly acknowledge the recent good work being undertaken by the [Australasian College of Paramedicine](#) in relation to Community Paramedics. ACPP believes that consistent messaging by both ACP and ACPP will increase the potential for paramedics to make a greater contribution to the broader healthcare systems.

- Media release - [“Paramedics are part of the solution, and it is imperative that they are recognised as such and are funded accordingly.”](#)
- Australian Health Journal - [YouTube video](#)
 - [03:12](#) John Bruning, CEO Australasian College of Paramedicine (ACP)



College Committees:

Any members that are interested in assisting the College to grow and develop are urged to become involved in our committees. It is through these working groups that the College seeks to achieve its primary goal of establishing employment pathways and educational “standards” for Paramedics Practitioners.

The Board:

The ACPP Board has had several resignations lately. We will soon be looking to recruit new Board members. We are particularly interested in having new Fellows on the Board as the Constitution states that “The composition of the Board must at all times have 60% of Fellows, Docere or Emeritus Docere as Directors of the Company.”. Any ACPP Fellows interest in a Director role please contact Greg Reaburn at greg.reaburn@acpp.net.au

Pathways (to employment) Committee:

Chaired by Pmd Jennie Mathews GMACPP

Email: jennie.mathews@acpp.net.au

This is a new committee that will focus on areas of the health system and identify opportunities and barriers for Paramedic employment within the following areas of health care:

- Primary Care – General Practice
- Hospital and Health Service (EDs etc)
- Community services

Several members have already expressed an interest in taking part in these focus groups. The College will be in touch with these members soon.

Membership Committee

Chaired by Pmd Kathryn McCormack GMACPP

Email: kathryn.mccormack@acpp.net.au

The Membership Committee manages membership of ACPP. They identify and promote member benefits, review member applications, create the College newsletter and informational webinars. Please contact Kathryn to be involved in this vital committee.

Education Committee

Chair: Pmd David Krygger GMACPP

Email: David.krygger@acpp.net.au

The Education Committee aims to influence educational providers that deliver, or are developing, post graduate education for paramedics as they develop primary healthcare skills.

The Education Committee also sets “standards” for ACPP paramedics roles. There are two “standards” for paramedics that practice primary health care:

1. Defining and maintaining consistency of education standards
2. Defining and maintaining consistency of practice standards

In 2022, the Education Committee will continue this important work and be creating webinars. Please contact David to be involved in this vital committee.



Continuing Professional Development Resources

End of Life Law for Clinicians (ELLC)

A new online training module about voluntary assisted dying and the law. The module can be accessed for free at the [ELLC online training portal](#).

AusDoc.

<https://www.ausdoc.com.au/cpd>

Australian Doctor is a free resource for up-to-date primary healthcare information. It requires a registration, but once your signed up it's free.

ThinkGP

<https://www.thinkgp.com.au>

Think GP was created to meet the needs of busy healthcare professionals, ThinkGP provides access to a broad range of RACGP and ACRRM accredited online educational activities – **free, online, anytime**. It requires a registration, but once your signed up it's free.



[NPS Medicinewise](#)

Pharmacology learning platform, NPS MedicineWise Learning provides health professionals and students with a range of learning activities and resources. It requires a registration, but once your signed up it's free.

Strong Medicine



<https://www.youtube.com/user/dreicstrong/playlists>

Educational videos on a variety of medical topics. Free and on demand. No sign up required.



Radiology Masterclass

Radiology Masterclass provides online medical imaging educational resources for medical students, junior doctors and allied health care professionals.

Build your skills in medical imaging by using our free to access material, and then sign up to a course completion assessment to prove your knowledge.

ACPP's own CPD activity:

ACPP has created several webinars. These videos can be found on the [ACPP YouTube](#) account.

- | | |
|----------|--|
| Mar 2022 | - Uncommon Abdominal Pathologies - Aaron McNeill FACPP |
| Feb 2022 | - Mental Health Risk Assessment - Ben Scamarcia |
| Jan 2022 | - Paramedic Self Care and equine therapy - Marissa Rose |
| Dec 2021 | - The HMS Collective model "Community Paramedics" - Jacqui Wilkinson |



Affiliated organisations

ACPP thanks these organisations for their support and advice as we navigate our way around these staggeringly complex healthcare systems.

The Australian College of Rural and Remote Medicine (ACRRM)



Australian College of
Rural & Remote Medicine
WORLD LEADERS IN RURAL PRACTICE

ACRRM is a national College with a rural heart. We are focussed on training and supporting rural General Practitioners to provide high quality healthcare to their communities. This is the purpose of our staff, the calling of our members and it's a lifeline for rural and remote communities. ACRRM is growing and we are putting our footprint in the regions where members need us most. Be part of an organisation where you can make a real difference - and grow with us.

Australian Primary Health Care Nurses Association (APNA)



APNA is the peak body and professional membership association for all nurses working outside of a hospital setting in Australia. APNA champions the role of primary health care nurses; to advance professional recognition, ensure workforce sustainability, nurture leadership in health, and optimise the role of nurses in patient-centred care.

Allied Health Professionals Australia



Allied Health Professionals Australia (AHPA) is the recognised national voice for allied health professions in Australia, representing and advocating for the role of allied health professionals in our health system. As the peak national organisation for allied health professionals, AHPA has an important strategic leadership role and is the body that the Federal Government and other national organisations turn to when they seek a collective view of allied health.

Services for Australian Rural and Remote Allied Health



SARRAH is recognised as the peak body representing rural and remote allied health professionals (AHPs) working in the public and private sector. SARRAH develops and provides services for AHPs to carry out their professional duties confidently and competently in providing a range of Clinical and health education services to people who reside in these settings.

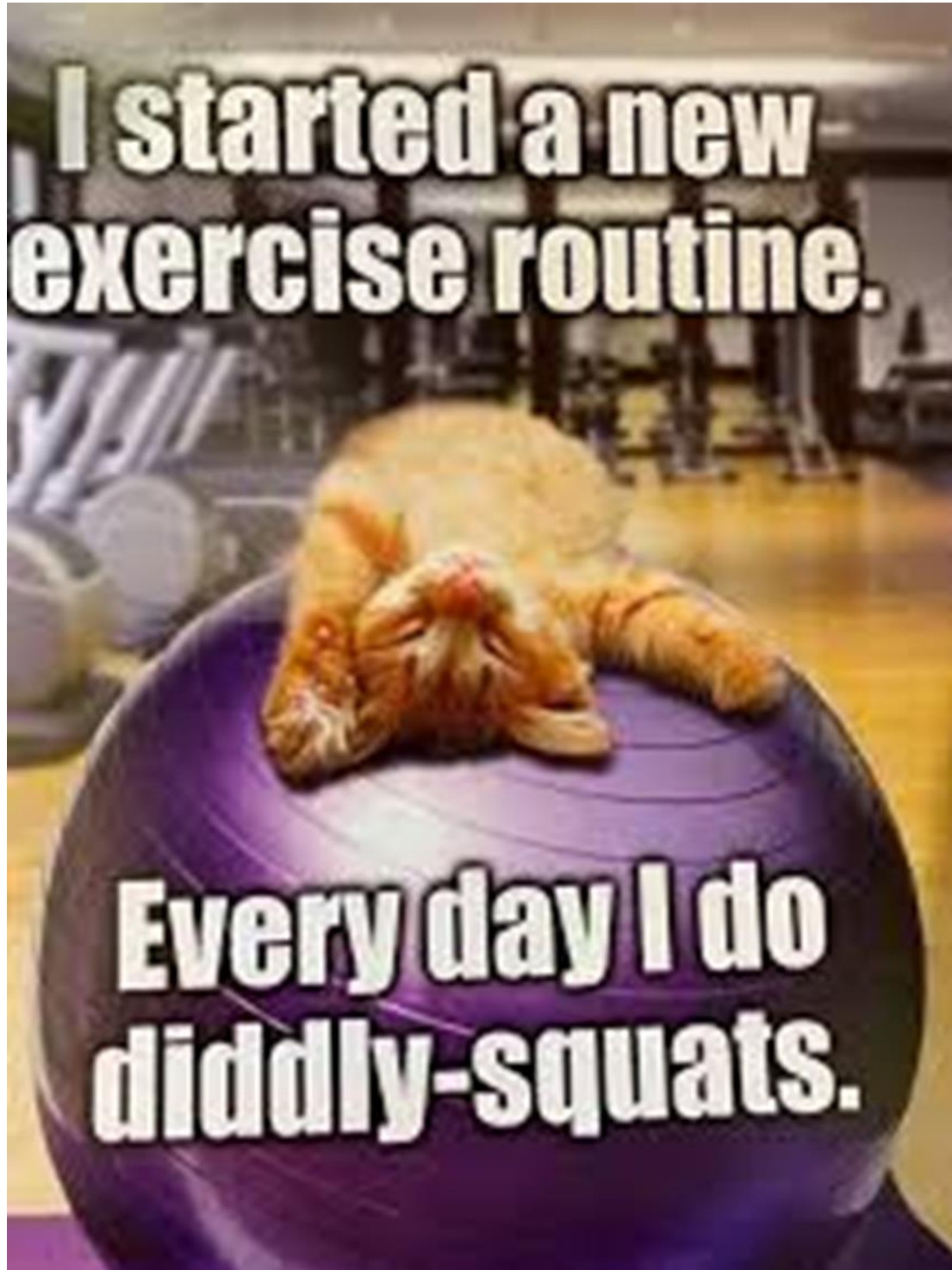
CRANApus



CRANApus ensures the delivery of safe, high quality primary healthcare to remote and isolated areas of Australia. We are a grassroots, not-for profit, membership based organisation that has provided over 30 years of education, support and professional services for the multi-disciplinary remote health workforce. We work for all remote health professionals, including nurses, midwives, Aboriginal and Torres Strait Islander health professionals and workers, paramedics, students, general practitioners, doctors, and specialists.



Laughter is the best medicine



A 20-year perspective on the Ottawa Ankle Rules: Are we still on solid footing?

Lawrence Herman, DMSc, MPA, PA-C, DFAAPA

ABSTRACT

The Ottawa Ankle Rules, finalized in 1995, are a clinical decision directive for the use of radiographs in patients with traumatic ankle and foot injuries. The researchers who developed the rules defined clinically insignificant ankle fractures as distal fibular or malleolar chip fractures of 3 mm or less. They concluded that at least one-third of all ankle and foot radiographs could be eliminated by using their rules, which have since been adopted as the standard of care in EDs. This article explores whether, after more than 20 years in use, the Ottawa Ankle Rules are still valid, and whether they should continue to be used or be replaced by a superior protocol.

Keywords: Ottawa Ankle Rules, ankle sprains, ankle fractures, foot fractures, ankle trauma, radiographs

Learning objectives

- Discuss the prevalence, cost, and impact on efficiencies of patients presenting with ankle injuries to the emergency department.
- Describe the historical development and validation of the Ottawa Ankle Rules, a landmark guideline developed to reduce unnecessary radiographs.
- Assess other potential guidelines concluding if the Ottawa Ankle Rules should continue to be utilized or be supplanted by a superior protocol.

In 2008, studies estimated that 675,000 to 4 million ankle sprains were reported and treated in EDs in the United States.¹⁻³ The range of these data is broad and challenging to quantify and fully interpret, in part, because ankle and midfoot injuries frequently overlap and are blurred by reporting. Some data include only primary,



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isolated ankle injuries; others include ankle injuries even with other distracting trauma. In a study involving more than 3.1 million ankle sprains, males compared with females overall did not demonstrate a higher rate of ankle sprains.⁴ However, males between the ages of 15 and 24 years had a substantially higher incidence rate of sprains than females of the same age range.⁴ Subsequent studies have looked at average costs or costs of specific segments of the population only. Ankle sprains are estimated to represent 10% of ED visits, and are one of the most common musculoskeletal injuries seen in EDs in the United States, with direct medical costs of \$2 billion.⁵⁻⁷

Until the development of the Ottawa Ankle Rules (OARs), first published in 1992, and eventually validated and widely implemented beginning in 1995, an estimated up to 98% of patients presenting emergently with an ankle sprain had imaging.⁸ The vast majority (85%) of these radiographs were negative for fracture.⁹⁻¹² These avoidable radiographs resulted in increased use of resources, ultimately slowing throughput in the ED, lengthening wait times, increasing unnecessary radiation for patients, and increasing global healthcare costs. Stiell and colleagues found that patients who did not have imaging spent less time in the ED (54 versus 86.9 minutes; $P < .001$).¹² Subsequent studies have necessarily focused on revalidating the OARs as a primary outcome, and not assessing throughput times because it would be unethical to ignore the OARs as the current *de facto* standard of care for comparison. And in recent times,

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Key points

- The OARs are a clinical decision directive for the use of radiographs in patients with traumatic ankle and foot injuries.
- At least one-third of all ankle and foot radiographs could be eliminated by using the OARs in EDs.
- Other protocols and technologies may approach or equal the OARs, but none supplants them for simplicity, reproducibility, and reliability.

although some ED protocols allow clinicians to order radiographs in triage to, in part, speed flow through the department, this may obviate the purpose of the OARs, which were specifically developed to reduce unnecessary radiographs, ultimately reducing the associated global cost.

A BRIEF DESCRIPTION OF THE OARS

The decision to use or defer radiographic imaging in a patient presenting with foot and ankle injuries is guided by the OARs, the existing standard of care.¹³ Briefly, these guidelines advise that ankle radiographs are required only if the patient has pain in the malleolar zone and any of the following three findings:

- Bone tenderness at the posterior edge or tip of the lateral malleolus (the lower 6 cm of the fibula)
- Bone tenderness at the posterior edge or tip of the medial malleolus (the lower 6 cm of the tibia)
- Inability to bear weight (as defined by at least four steps) immediately after the injury and in the ED. The inability to bear weight is a binary event and means precisely what is described. In the simplest of terms, if the patient can, or cannot, take four steps in the ED, regardless of limp or pain, the patient either has, or has not, met this specific requirement.

The OARs state that a foot radiographic series is required only if the patient has any pain in the midfoot zone and any of the following three findings:

- Bone tenderness at the base of the fifth metatarsal
- Bone tenderness at the navicular bone
- Inability to bear weight (as defined by at least four steps) immediately after the injury and in the ED.

Furthermore, clinical judgment should prevail over the rules if the patient:

- is intoxicated or uncooperative
- has other distracting painful injuries
- has diminished sensation in their legs
- has gross swelling that prevents palpation of the malleolar bone tenderness.

DEVELOPMENT AND VALIDATION

Table 1 summarizes the evaluation, validity, and effect of each of Stiell and colleagues' multiphase, methodologic studies over time as he validated his protocol in an escalating manner. Beginning by confirming inter- and intra-rater

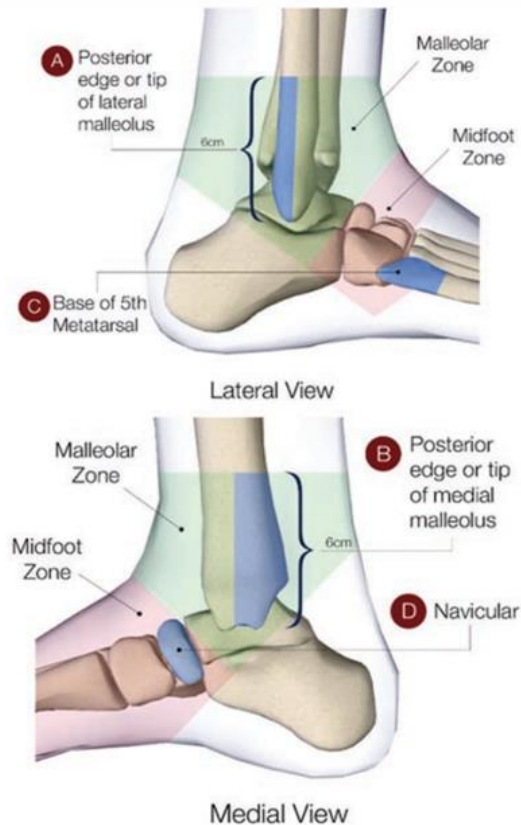


FIGURE 1. The Ottawa Ankle Rules

Reprinted with permission of Ian Stiell, MD, and adapted from www.theottawarules.ca/ankle_rules

reliability, the rules were piloted by a small cohort of experienced emergency medicine physicians in two large university teaching hospitals. They then proceeded to determine if this guideline could be duplicated, transferred, and scaled by evaluating the implementation of the OARs to many physicians of varying experience and specialties in a variety of university and community hospital EDs. Collectively, 17,509 patients were enrolled in these four prospective studies.

META-ANALYSES OF THE OARS

Bachmann and colleagues, Jonckheer and colleagues, Barelds and colleagues, and others have performed comprehensive, systematic reviews confirming the validation of the OARs.¹⁴⁻¹⁶ This research entailed assessing studies beginning immediately after implementation of the OARs in 1995 and until shortly before each review was published. Each supported the continued validation of the OARs. Some argued that the application of the OARs would be more extensive save for defensive medicine and the fear of lawsuits, patient expectations, and patient satisfaction surveys, all of which continue

Table 1. Studies evaluating the validity and effect of implementation of the OARs

Study description	Study setting and patients (N)	Statistical analysis results	Results	Conclusion
Pilot study evaluating acute ankle trauma, examining 32 clinical variables, followed by main stage study ⁹	<ul style="list-style-type: none"> Two university hospital EDs; staff emergency medicine physicians Pilot stage: 155 adults; main stage, 750 	Variables assessed for reliability and for association with significant fracture on ankle and foot radiographic series. Data analyzed by logistic regression, recursive partitioning techniques to develop decision rules.	All 70 significant malleolar fractures found in the 689 ankle radiographs performed identified among people using the specified criteria. The rule was 100% sensitive and 40.1% specific for detecting malleolar fractures. Similarly, all 32 significant midfoot fractures on the 230 foot radiographs performed were found using the specified criteria.	Highly sensitive decision rules have been developed and will now be validated.
Convenience study of patients with acute ankle injuries. Stage 1: validation of original rules. Stage 2: validation of refined rules ¹⁰	<ul style="list-style-type: none"> Two university hospital EDs; staff emergency medicine physicians Stage 1: 1,032 of 1,130 eligible patients Stage 2: 453 of 530 eligible patients 	Variables assessed in both stages for reliability and for association with significant fracture on ankle and foot radiographic series. Data analyzed by logistic regression, recursive partitioning techniques to develop decision rules.	Refinement and validation have shown the OARs to be 100% sensitive for fractures and to be reliable.	Field trials will assess the feasibility of implementing these rules in clinical practice.
Assessment of the effect on clinical practice of implementing the OARs ¹¹	<ul style="list-style-type: none"> EDs of a university (intervention) and community (control) hospital; staff emergency physicians All 2,342 adults seen with acute ankle injuries over a 5-month period before and after the intervention 	Relative reduction in ankle radiography by 28% at the intervention hospital but an increase by 2% at the control hospital ($P < .001$). Foot radiography was reduced by 14% at the intervention hospital but increased 13% at the control hospital ($P < .05$)	Implementation of the OARs led to a statistically significant decrease in use of ankle radiography, waiting times, and costs without patient dissatisfaction or missed fractures.	Future studies should address generalizability of these decision rules in a variety of hospital settings.
Assessment of the feasibility of introducing the OARs to a large number of physicians over a wide variety of hospitals over an extended period of time ¹²	<ul style="list-style-type: none"> 8 teaching and community hospitals in Canadian cities (pop. 10,000 to 3 million); emergency physicians, family physicians, and housestaff All 12,777 adults (6,288 controls and 6,489 interventions) seen during two 12-month periods before and after intervention 	Statistically significant reduction in the use of ankle radiography at all 8 hospitals: combined 82.8% control vs. 60.9% intervention ($P < .001$); for emergency physicians 82.1% vs. 61.6% ($P < .001$); and for housestaff 82.3% vs. 60.1% ($P < .001$).	Introduction of the OARs proved to be feasible in a large variety of hospital and community settings. Use of the rules over a prolonged period of time by many physicians of varying experience led to a decrease in ankle radiography, waiting times, and costs without an increased rate of missed fractures.	The multiphase methodologic approach used to develop and implement these rules may be applied to other clinical problems.

to drive the use of radiographs, conspiring against the purpose of the OARs.¹

Bachman pooled data from 27 studies involving 15,581 patients to determine the clinical usefulness of the OARs; the review largely correlates with the original data compiled by Stiell and colleagues (Table 2).¹⁴

ALTERNATIVE PROTOCOLS

Researchers have proposed alternative decision-making protocols using different physical examinations or readily available devices such as tuning forks.¹⁴ The Bernese ankle rules arguably have the most significant promise, claiming 100% sensitivity and a specificity of 91%, which

Table 2. Pooled indices of the clinical usefulness of the OARs for ankle, midfoot, and combined fractures

All figures are percentages			
	Ankle	Midfoot	Combined ankle and midfoot
Sensitivity (95% CI)	98 (96.3, 99.3)	99 (97.3, 100)	96.4 (93.8, 98.6)
Specificity (interquartile range)	39.8 (27.9, 47.7)	37.8 (24.7, 70.1)	26.3 (19.4, 34.3)
Negative likelihood ratio (95% CI)	0.08 (0.03, 0.18)	0.08 (0.03, 0.2)	0.17 (0.1, 0.3)

would lead to a further reduction in unnecessary radiographs.¹⁷ The physical examination is arguably more complicated, raising the specter of a possible decline in inter- and intra-rater reliability, scalability, and transferability. These proposed alternative protocols primarily are pilot studies and have yet to be validated to the extent that the OARs have been. These and other alternative approaches remain only possibilities.

Others have proposed the use of bedside ultrasound as a two-step imaging algorithm. The Sonographic Ottawa Foot and Ankle Rules (SOFAR) study is typical, recommending the use of ultrasound when the OAR examination yields a positive result, and proceeding to a radiograph only when ultrasound is positive or equivocal.¹⁸ The SOFAR protocol has the potential of adding a step, further slowing throughput and increasing cost, while reducing the need for some radiographs. Ultrasound also is highly operator-dependent, and during this study, clinically significant fractures were missed and only found after radiograph.¹⁸ A subsequent ultrasound was able to identify the fracture, but only if the sonographer knew the fracture location. Unlike radiography and CT scans, ultrasound is not helpful in planning repair. The choice of a two-step process may be fundamentally flawed.

Of particular note, in a study of 21 patients with traumatic injuries highly suspicious for ankle fracture based on OARs and negative radiographs, subsequent CT scans revealed a clinically significant fracture in 5 patients (23.8%), demonstrating the compelling positive predictive value of the OARs.¹⁹

MISSED CLINICALLY SIGNIFICANT FRACTURES

Sporadic case reports exist of clinically significant ankle and foot fractures that were missed, but it remains unclear whether the OARs were appropriately applied in these cases or if the studies strictly adhered to the definition of clinically significant fractures. One commonly reported miss in the literature involved a 31-year-old man who was parachuting, and deployed his smaller backup parachute after his main parachute failed.²⁰ Using the smaller backup parachute usually results in landing at a higher velocity; although the case report did not specify that the patient landed at a higher velocity, it was likely. Furthermore, rather than landing on the ground and then intentionally falling, as parachutists are trained to do to reduce injuries,

the patient landed awkwardly on an aircraft wing. The case report states that the patient was weight-bearing immediately after the accident and again in the ED. Despite the unique mechanism of injury, the study author concluded that a radiograph was not warranted based on the OARs. Subsequently, the patient was diagnosed with a fracture of the dome of the talus. The case report does not indicate the length of delay in treatment and if the delay changed the treatment or prognosis. A single case report may skew subsequent literature. This case abstract has been downloaded 2,362 times since publication, with 4,248 downloads of the full article and 1,056 downloads of the PDF file associated with it.

In the single most robust meta-analysis that included other diagnostic examinations, including enhanced or modified physical examinations, patient histories, and supplemental tools such as tuning forks or point-of-care ultrasound, or ancillary rubrics requiring a calculation to assess the need for imaging, the authors could only conclude that those studies “had potential.”¹⁴ However, they were either more complicated to raise significant issues of widespread implementation, inter- and intra-rater reliability, or that they provided any added value has not yet been confirmed.

A single prospective, multicenter trial published in 1994 in New Zealand by Kelly and colleagues involved a much smaller cohort of 350 adults presenting with ankle trauma and argued against using the OARs.²¹ The authors of this study reported a total of five missed fractures, including an unstable fracture of the ankle, and fractures of the talus, calcaneus, cuboid, and navicular bones. This small study resulted in an unacceptable sensitivity of 93% and specificity of 11%. The study appears to be the single prospective study that contradicts Stiell and colleagues’ protocol. However, the study had several flaws. The researchers enrolled 350 patients, 2% of the number of patients enrolled by Stiell and colleagues. The protocol used a convenience sample. Enrollment of patients depended on staff remembering about the study.²¹ Minor injuries with minimal signs and symptoms were excluded at the discretion of the treating physicians.²¹ All grades of the staff, from first-year residents to experienced senior clinicians, were involved in the assessment of ankle injuries. The authors did not describe the training, if any, received by those involved in assessing patients for the study. Collectively, these differences are

substantially different enough when compared with the original OAR studies to call into suspicion the results.

Stiell and colleagues replied in 1995 with a letter to the editor detailing these and other points of contention.²² Kelly responded to that letter by stating that the physicians were trained appropriately in the application of the OARs, including the fact that there were clear diagrams on the study data collection instrument.²² However, Kelly pointed out that the data for the study were collected primarily by junior medical staff (first- and second-year residents) in 1993 and was well underway before the publication of Stiell and colleagues' refinement and validation studies published in 1994 and 1995. Despite the refinements made by Stiell and colleagues, Kelly and colleagues continued with their research and failed to point out these differences in their publication. Kelly proposed that these differences may be why their study differed in its conclusions.²² This study was not a head-to-head comparison.

APPLICABILITY BEYOND EMERGENCY PHYSICIANS

The OARs are useful not only for emergency medicine trained physicians. Stiell and colleagues validated their use with physicians who were not trained in emergency medicine, including family practitioners and housestaff.⁹⁻¹² Speculatively, they would have included physician assistants (PAs) in their study had they been practicing in Canada at the time. After implementation in North America, the OARs have been validated across the world in studies performed first in France, Denmark, Switzerland, Taiwan, Iran, and elsewhere, and confirmed in subsequent studies.²³⁻²⁷ Although it may be logical to use this same protocol in other settings, specifically urgent care and primary care, the OARs have only been tested and validated in EDs. However, they have been validated in studies using non-physicians, most notably ED triage nurses.^{28,29} Expanding OAR use broadly in ED triage is reasonable if trained nurses are used. Recently, additional studies examined applicability of the OARs in children, as well as applicability for specific subtypes of ankle fractures, although these applications are outside the scope of this article.

Despite infrequent outlier case reports of missed clinically significant fractures, and a single questionable small contradictory study, the remaining controlled trials, systematic reviews, and meta-analyses all concluded that:

- The original OARs are valid, with a sensitivity approaching 100% for detecting clinically significant fractures of the ankle and foot.
- Using the OARs can reduce unnecessary foot and ankle radiographs by up to 40%, shorten throughput in the ED, and reduce unnecessary costs.
- OARs are the standard of care and can—and should—continue to be used preferentially over other guideline-directed decision-making by EDs.
- OAR implementation likely should be expanded to include ED nurses and other settings such as family practice.

CONCLUSION

The OARs remain the *de facto* standard of care for clinical decision-making and for using or deferring radiographic imaging in patients with traumatic ankle and foot injuries. Other protocols and technologies may approach or equal the OARs, but none supplants them for simplicity, reproducibility, and reliability. Research supports the broad adoption beyond North America and to other practice settings such as urgent care and family practice. Research also supports the full adoption and implementation by other healthcare providers, including ED triage nurses. After more than 20 years, the OARs remain on solid footing. **JAAPA**

Earn Category I CME Credit by reading both CME articles in this issue, reviewing the post-test, then taking the online test at <http://cme.aapa.org>. Successful completion is defined as a cumulative score of at least 70% correct. This material has been reviewed and is approved for 1 hour of clinical Category I (Preapproved) CME credit by the AAPA. The term of approval is for 1 year from the publication date of July 2021.

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