



Future Leaders Communiqué

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Guest Editorial

Dr Tony Pham

Feeling hesitant and uncomfortable when starting in a new role and/or a new hospital is a common experience for all junior doctors. The initial days of a new job present the steepest learning curve for us. As most would know, becoming familiar with hospital specific policies, procedures, and other subtleties of day-to-day patient care is something that requires time and experience on the job. For this reason, orientation for junior doctors is crucial.

Orientation provides junior doctors with pertinent instructions about their new clinical role and responsibilities, as well as key information about their work environment. It comes in many shapes and sizes and could be as informal as a walk around the wards and hospital with a peer outlining the most common aspects of the job and the logistics associated with each aspect. On the flipside, it could be formally structured with a series of talks and presentations over the course of one to two days. Whatever the approach to orientation, its existence at the commencement of a new position is crucial for patient safety.

So often, being unfamiliar with a process or policy, despite being competent clinically, can unnecessarily delay or diminish patient care. Attempting to calmly manage a rapidly deteriorating patient whilst scrambling to order blood tests and imaging, and grappling with an unfamiliar computer system, for example, is a scenario that many of us would loathe to find ourselves in, particularly on our first few days of a new job.

The case examined in this edition highlights how the lack of familiarity with one's role and the hospital in which they are working, can lead to a delay in the recognition of a deteriorating patient. The case also demonstrates the need for safeguards, whereby clinically significant investigation results are relayed to the treating team to and acted upon in a timely manner.

Human error is inevitable in healthcare. Accepting this fact however does not void us of the responsibility to ensure that the risk of patient harm is mitigated through our own clinical judgement and through the systems and processes under which we work. How many times have we missed an integral result in a patient's battery of investigations that would have led to the prevention of, or at least, the earlier recognition of the cause of a patient's deterioration? On the flipside, how many times has clinical care been accelerated by a call from our pathology or radiology departments with a critical result for a patient? These scenarios provide a canvas upon which innovative methods, particularly in the realm of electronic medical records, can aid us as clinicians to provide the safest care possible for our patients.

Many thanks to our expert commentators for this edition: Nicole Mair (director of clinical information services at Sunshine Coast University Hospital) and Brendan Morrissey (Prevocational Supervisor/Supervisor of Intern Training at St Vincent's Hospital, Melbourne). Both expert commentators offer invaluable perspectives on clinical safeguards and clinical orientation respectively.

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Editorial

Brendan Morrissey

Welcome to the January 2023 edition of the Future Leaders Communiqué. In this edition we present a thought-provoking summary of the events leading to the tragic death of JL, a 69-year-old woman recovering from an elective neurosurgical operation. We reflect on the challenges faced by junior doctors engaging in locum work and the chain of communication in medical imaging reports.

Our guest editor for this edition is Dr Tony Pham. Tony is a Basic Physician Trainee at Mackay Base Hospital, Queensland. He is passionate about regional health and specifically patient safety within the confines of under-resourced environments. The case Tony has chosen to present will no doubt resonate with many of us. Attempting to navigate the care of an unwell patient within an unfamiliar work environment would provoke anxiety in any doctor. I can all too easily recall the fear and bewilderment I felt in the first few shifts of a new hospital rotation; getting lost on a daily basis through unfamiliar wards and corridors, surreptitiously peeking at a name badge as I asked yet another stranger for assistance with seemingly simple tasks, collapsing at the end of each shift, exhausted from having to consciously concentrate on every moment across the day. Reading through this case summary, I was starkly brought back to my own experiences of trying to find my way on the ward after an 'informal orientation'.

It has caused me to reflect on some of the current challenges faced within healthcare, and specifically the increasing reliance that hospitals and General Practice clinics now have on locum doctors to maintain safe patient care when faced with staffing shortfalls. Locum work is a perfect stress-test on a number of key healthcare systems: orientation programs, assessment and management protocols; escalation pathways for the deteriorating patient; the communication systems for clinical data. Without robust systems in place, essential clinical practices will inevitably falter when faced with a rapid turnover of staff. As healthcare's reliance on locum work increases, so should its focus on strong, safe, systems. We must ensure that any new clinical staff can quickly and easily access the assistance and support they require to deliver safe patient care at all times. In this edition, I have provided a commentary focusing on orientation programs for new junior doctors, and the obstacles that locum doctors may encounter in being orientated to a new role.

Our other expert commentary for this edition is provided by Ms Nicole Mair who is the Director of Clinical Information Services at Sunshine Coast Hospital. Ms Mair reflects on common pitfalls in clinical care in the hospital environment, and how health information systems can assist and support the clinician in avoiding errors and promoting a standardized approach to safe patient care.

There is much to discuss with this case, and plenty of lessons to learn. We hope that you find it useful in reflecting upon and evolving your own clinical practice. The podcast version of this edition will be released in the future. Please remember, a podcast catalogue of previous editions for the Future Leaders Communiqué along with our sister publications, the Clinical Communiqué and the Residential Aged Care Communiqué, is available and free to download through our website or via Spotify, Apple and Stitcher.

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Case - An Obstruction in an Unfamiliar Place

Case Number CORC 487/2014
WA

Author **Dr Tony Pham**

i. Clinical Summary

JL was a 69-year-old female who had chronic back pain because of an osteoporotic fracture in her lumbar spine. Following unsuccessful non-operative interventions, JL underwent an elective operation - L4/5 decompressive laminectomy with rhizolysis vertebroplasty of L4 and spinal motion segment (SMS) strut - at a private hospital. She had a medical history of systemic lupus erythematosus, anaemia, and anxiety, alongside her chronic back pain.

JL's operation was complicated by a reported cerebrospinal fluid (CSF) leak for which there was no obvious source. Her post-operative orders, apart from the usual analgesia and antibiotics, were to remain supine for 48 hours following the operation.

Over that 48-hour period, JL's predominant issues became bloating, constipation, and abdominal pain. She was otherwise progressing well, her surgical drains were removed, and no further complications arose from her CSF leak.

For her constipation, JL was provided with Movicol on day two post-operation, which was unsuccessful in promoting her bowel motions. Subsequently, she was given a glycerol suppository on day three post-operation, resulting in a small bowel motion. At this point, she was still eating and drinking. JL's abdomen however, continued to become more distended and painful. She developed a supplemental oxygen requirement, with her oxygen saturations dropping to 84% on room air. Oxygen via nasal prongs was delivered to maintain saturations above 94%. The decisions to administer laxatives and oxygen were made independently by the nursing

staff looking after her. Once JL's abdomen became more distended, the nursing staff called for a medical officer review to consider a fleet enema.

Of note, the resident medical officer (RMO), Dr F, was working his first shift as a locum at the

'Concerningly, she had still not opened her bowels.'

hospital. Dr F was therefore unfamiliar with the handover process between shifts, and with the consultation and escalation policies of the hospital.

Dr F reviewed JL and agreed with the suggestion of a fleet enema. With the knowledge that there was no overnight medical cover, he reviewed JL one hour after the use of a fleet enema, when he was due to finish his shift. Concerningly, she had still not opened her bowels.

Wanting to resolve the issue before finishing his shift, he contacted JL's neurosurgeon, Dr N, who advised Dr F to call a gastroenterologist. Dr F, unsure of the specific gastroenterologist he was supposed to call, sought the advice of staff in the emergency department of the hospital. Unfortunately, Dr F was given the contact details of a gastroenterologist who was not on call. He then called through to the on-call general physician who advised him to order an abdominal x-ray. The abdominal x-ray was requested and, as he was under the impression that the x-ray was unlikely to be performed overnight, Dr F marked the request as routine and was happy for the x-ray to be done the next day. A note was left, advising the treating team to follow up the result of the x-ray in the morning.



Through the course of the night, JL experienced worsening abdominal pain and was administered two doses of intravenous pethidine (100mg each dose). The next morning (day four post-operation), an abdominal x-ray was performed which showed "a large volume of free extra-peritoneal air". This was conducted at 11:30 hours and reported at 13:10 hours that day. The report was viewed at 18:00 hours, during a routine review by a rehabilitation specialist, Dr L, to whom the patient's care would have been transferred after her post-operative recovery. Dr L was concerned about peritonitis and attempted to have JL reviewed urgently by the general surgical team.

There was no general surgeon rostered at the private hospital at that hour. Therefore, JL was urgently transferred to the local regional public hospital.

'An abdominal x-ray was performed which showed "a large volume of free extra-peritoneal air"'

JL was admitted under the general surgery team who deemed it necessary for her to have emergency surgery that night. In theatre, it was found that JL had a perforated caecum and ischaemic bowel which had led to four-quadrant peritonitis. JL underwent a washout of her abdomen and a right hemicolectomy.

JL deteriorated further the following morning, with worsening pain and sepsis, necessitating admission to the Intensive Care Unit (ICU). She was subsequently taken back to theatre for a relook laparotomy due to ongoing hypotension and high intra-abdominal pressures. Her bowel was observed to be healthy. However, given her clinical status, her abdomen was left open, and a Vacuum-Assisted Closure (VAC) dressing applied.

JL continued to deteriorate over the next three days. She was taken back to theatre again to relook at her abdomen and to change the VAC dressing. Unfortunately, her bowel had become ischaemic. A decision was made by a team of surgeons to not operate any further as JL's pathology was not considered to be reversible. JL died later that night – eight days following her initial decompressive laminectomy.

ii. Pathology

An autopsy was performed by a forensic pathologist, who concluded that the cause of death was "intra-abdominal sepsis and shock with multi-organ failure following perforation complicating a recent lumbar spine laminectomy".

iii. Investigation

A coronial investigation was conducted to review JL's case. The coroner focused on the clinical escalation processes at the private hospital where JL had her laminectomy. This was aided by the opinion of expert A, a consultant colorectal surgeon.



Expert A raised two key issues relating to the clinical processes at the private hospital. The first issue was the lack of overnight cover at the hospital where JL had her laminectomy, which caused a delay in the recognition of a deteriorating patient and a delay in the follow-up of investigations. The second issue related to the communication between consultants. Expert A opined that the admitting neurosurgeon, Mr. N, should have been responsible for all the patient's clinical problems despite them not being directly related to the initial operation. Expert A also opined that any consultations should have been discussed at a consultant-to-consultant level.

The coronial investigation shed light on how Dr F, despite being a new locum to the hospital, had not received orientation and, in the throes of his busy shift, was not fully aware of the local hospital policies and protocols. The investigation also highlighted key events which delayed the diagnosis of JL's intra-abdominal sepsis. These were centred around the events that took place on days three and four post-operation. The first was the delay in imaging JL's abdomen, which was in part due to the lack of overnight medical officer coverage, and that the x-ray request was not marked urgent.

The second related to the fact that JL was not clinically reviewed in the morning despite needing pethidine overnight and the request for an abdominal x-ray. Thirdly, the findings of the abdominal x-ray, concerning as they were, were not relayed directly to any member of the treating team. These were all deemed to have contributed to the delay in recognising JL's deterioration and her final diagnosis.



iv. Coroner's Findings

The coroner acknowledged the constellation of factors, as outlined previously, that led to the delayed diagnosis of JL's perforated bowel. The coroner noted that the hospital had since changed its processes to only rostering locum doctors who had undergone formal orientation before commencing their initial shifts.

The hospital also employed additional RMOs to cover the wards overnight. Both improvements would have expedited the abdominal imaging and clinical review that was needed to diagnose JL's perforated bowel.



The coroner also considered the reporting of pertinent findings by radiologists at the hospital. JL's case demonstrated a delay in diagnosis as the abdominal x-ray findings were not relayed to a medical officer at the time of reporting. It was therefore recommended that the radiologist contact the consultant directly when there was an urgent result.

Overall, the coroner commented that there was no certainty that earlier intervention may have changed the outcome in JL's case. It was concluded that JL died of natural causes. However, the delay in diagnosis of perforated bowel was deemed to have reduced JL's chances of survival.

v. Author's Comments

The delay in JL's diagnosis cannot be attributed to one predominant issue. As outlined by the coroner, Dr F's lack of orientation which delayed appropriate consultation and handover; the lack of overnight medical cover; the fact that the abdominal x-ray findings were not relayed verbally to a medical officer; all contributed to the delay in JL's diagnosis and subsequent treatment.

This case therefore shows how the structure and processes of a health service so pertinently influences patient outcomes.

vi. Further Reading

1. Critical test result notification position statement <https://www.ranzcr.com/college/document-library/clinical-radiology-unexpected-notifications>.
2. Employment of Locum Medical Officers by NSW Public Health Organisations policy <https://www.health.nsw.gov.au/business/locums/Pages/default.aspx>.

vii. Keywords

Locum, handover, delayed diagnosis, perforated bowel, orientation



Technological solutions: A remedy for human error?

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 Services
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 Health Service

The complaint of JL with regards to constipation and discomfort appears to have been well documented by the nursing staff caring for her. Strong pain relief and laxatives were provided repeatedly over the initial days following surgery.

Following Dr F's overnight review and request for an abdominal x-ray for JL, he had documented a request for a medical review the following day. Despite this, none occurred. The issue here is, why was this request not communicated to the home team?

The risk of care plans not being communicated can be reduced via the use of colour-coded electronic patient journey boards within wards which clearly depict care plans and urgent follow-up

requirements to the clinical team. These boards are highly visible in nurse stations, and feature 'flags' to demand required action.

'Standard practice is that any significant radiology or pathology results be telephoned through to the treating clinician or care team. This did not occur.'

Other safeguards that could have prevented this tragic set of circumstances would include the utilisation of Adult Deterioration Detection Systems (ADDS) and associated clinical forms which would have clearly indicated issues regarding pain, oxygen saturation levels, and required interventions in scorable format. These are valuable - even in paper-based formats - and would provide triggers for escalation. In this case, when JL's condition was deteriorating and in the absence of overnight RMO cover, the nursing staff would be prompted

to communicate with JL's treating doctor, Dr N.

In hindsight, one could argue that the abdominal x-ray should have been marked 'urgent' and performed that evening. However, once it had been performed and reported the following day, the radiologists failed to ensure the result (which described a significant finding) was urgently communicated to the treating clinician. Standard practice is that any significant radiology or pathology results be telephoned through to the treating clinician or care team. This did not occur.



There is robust evidence that the use of fully integrated digital patient record systems reduces risks for patients. In JL's case, Dr N could have reviewed JL's live record at home or in his rooms and readily determined there was an issue.



Ready, Set, Go: safe orientation of locum doctors

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Without sufficient orientation or appropriate supervision, locum work has been described as an 'error-producing condition' for patient safety.¹ This is an ever-expanding area of clinical risk given locum doctors are in increasing demand across the healthcare system. In 2019, it was reported that locum work accounted for 3.4% of fulltime equivalent (FTE) work amongst medical practitioners in New South Wales (NSW).² In some regional areas of NSW, this figure increased to as high as 38.4%.² This trend is also evident internationally, with most recent figures from the General Medical Council (GMC) in the UK showing 63% of doctors in training also hold a locum contract.³

It is a marker of the current strain on healthcare systems that locum work is in such high demand. Locum work is the least bad option for services facing staff shortages; if offered the choice between locum doctors unfamiliar with local processes and resources or no doctor at all, which would you choose for your patients? In this regard, locum doctors provide a safety net to the maintenance of clinical care.

What types of harm occur?

Healthcare workforce shortages, especially at the doctor-in-training level, have been exacerbated by the COVID-19 pandemic. This has led to an increased reliance on locum work to maintain clinical service delivery. Unfortunately, the unique clinical governance demands and provision of specific support of locum doctors are incompletely addressed. This contributes to locum work being associated with higher clinical risk.

It should be noted that it is not only the patient who is exposed to clinical risk; navigating unfamiliar healthcare settings will inevitably expose the locum doctor to

'Orientation of junior doctors to a new position has repeatedly been revealed to be an area of underperformance for health services.'

increased risk. A lack of familiarity with local safety procedures and the obstacles imposed by the lack of trusted support and supervisory structures contribute to a high-risk environment for the locum doctor.

Orientation of junior doctors to a new position has repeatedly been revealed to be an area of underperformance for health services. Nationally, only 64% of all doctors-in-training received a formal orientation when starting in a new role, with 30% receiving an informal orientation, and 3% receiving no orientation.⁴

Formal orientation would be considered to be an in-person introduction to the work environment (including introduction to the relevant supervisors and clinical supports) along with written resources provided prior to the commencement of clinical work. Informal orientation includes peer-to-peer handover at the commencement of clinical work, or the provision of generic written orientation materials only. Informal orientation practices such as these are more likely to occur when the covering doctor is employed at short notice or for brief periods only. This is not an uncommon experience for locum doctors.



How does orientation reduce harm?

Over the past two decades, patient harm due to suboptimal orientation has been increasingly recognised, leading to highly structured, formalised and timing-linked orientation programs to fixed clinical rotations. These orientation programs allow new doctors to familiarise themselves to the work environment, observe the teams they will be working within and experience how they communicate, and gain familiarity with the clinical resources they will rely on to perform their clinical duties. This design element of bulk orientation of permanent staff at set intervals across the year provided by health services does not address the last-minute nature of much locum work.

That is not to say that appropriate clinical governance of the orientation of locum doctors is impossible. There are a number of steps a health service, and locum junior doctors, can take to optimise orientation to a new role, and thus look to improve patient safety.

For health services, a clinical orientation checklist can produce a standardised, succinct process to ensure all new junior doctors can be safely orientated to their new role.^{5,6,7} Features of this checklist should include:

- A written role description
- Role expectations and responsibilities
- Tour of work environment
- IT programs and processes
- How to access local clinical guidelines
- Names, roles and contact details of clinical team and supervisors
- Personal safety, fire & evacuation procedures

Surveys of what junior doctors want from the orientation process have provided several themes of effective orientation packages, including:⁵

- A written, succinct orientation resource should be provided before junior doctors begin a new role
- Orientation materials should be developed and updated with active involvement of junior doctors

- Face-to-face, peer-to-peer orientation is the preferred format where possible
- Senior medical staff can contribute to the orientation materials and ensure a formal and genuine welcome

Improving the quality and safety of the orientation provided to locum junior doctors can assist in improving the quality and safety of the care they provide their patients. With the healthcare workforce trending towards an ever-increasing reliance on locum doctors, the development of succinct, effective orientation programs should be a priority for all health services.

Key questions for junior locum doctors to ask:

- Who do I report to?
- Are they on site? If not, how do I best contact them?
- If they are not available, who is the next senior clinician I should call?
- Are there other junior doctors on site that I can ask about local practices/policies?
- Who will I be working closely with? Do they know that I am a locum?

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Comments From Our Peers

"Having been the recipient of many a detailed and insightful handover from my predecessors, I recognise that it is an important part of my role to orientate the incoming junior doctor."

"We should be striving to develop systems which are safer for patients. Electronic medical records are an important part of this but do not always replace a phone call or face-to-face conversation."

"‘Therapeutic failure’ is an important prompt to evaluate why a prescribed treatment hasn’t had the effect intended."

"Handovers are vital to ensuring plans are understood and followed through in a timely manner. One of the benefits of working shift work in critical care is the designated handover periods; unfortunately, this process is not always set up in other areas."

"I must be accountable to any test I order, and to ensure that the result is ‘seen’ in time, so that any response can be appropriately actioned."

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