

Clinical Communiqué

VOLUME 2. ISSUE 1.

March 2015 Edition

ISSN 2204 - 0099

CONTENTS

Editorial	1
Case #1 Lost in translation	3
Case #2 A catastrophic cascade	4
Case #3 Clinical picture or digital pictures?	5
Expert Commentary Novices and experts - Bridging the gap	6
List of Resources	6

PUBLICATION TEAM

Editor in Chief: Nicola Cunningham
Consultant Editor: Joseph E Ibrahim
Managing Editor: Alexander Gillard
Designer: Clair Richards
Web Designer: Andrea Hince

Address: Department of Forensic
Medicine, Monash University, Victorian
Institute of Forensic Medicine
65 Kavanagh St, Southbank VIC 3006

Honorary Advisory Board: Adam O'Brien,
Carmel Young, David Ranson

FREE SUBSCRIPTION

The Department of Forensic Medicine
Monash University and the Victorian
Institute of Forensic Medicine will publish
the CLINICAL COMMUNIQUÉ on a
quarterly basis. Subscription is free of
charge and will be sent electronically to
your preferred email address.

If you would like to subscribe to the
CLINICAL COMMUNIQUÉ, please go to:

www.vifmcommuniques.org/subscribe

Next Edition: June 2015

EDITORIAL

Welcome to the first edition of the Clinical Communiqué for 2015.

The three cases in this edition explore the issues of communication and decision-making at the bedside. Communication is a skill that sits at the core of our working lives. We share information with our colleagues about patients, pathology and imaging results, as well as our concerns, failures, and successes. We may be interacting with others more junior, more senior, or at the same level as us, or communicating to people in other disciplines, or other healthcare sectors. In a single day's work, many of us will exchange information countless times by email, pager, phone, and in person. So, in a complex world of multimodal interactions, how do we communicate effectively with our colleagues? More specifically, how do we use handover to transfer critical information between people in a way that allows accurate decision-making every time?

Clinical handover is defined as 'the transfer of professional responsibility and accountability for some or all aspects of care for a patient, or group of patients, to another person or professional group on a temporary or permanent basis'. Each of the cases in this edition provides an example of gaps in clinical handover and the potential effects those gaps had on the clinical decisions made at the time.

Handover encompasses a broad range of information transfer, including each time a result is reported for a patient, when a patient's care is transferred to another speciality team, or when a person or team arrives to provide assistance in an emergency.

The first case ('Lost in translation') shows the problems that arise when assumptions are made about the type of language or wording that is used in a handover. The second case ('Clinical picture or digital pictures?') illustrates some of the challenges that occur in handover between different specialities and between the ranks of junior and senior staff. The third case ('A catastrophic cascade') looks at communication between specialists and the impact of failing to communicate all the relevant information in a critical situation.

ACKNOWLEDGEMENTS

This initiative has been made possible by collaboration with the Department of Forensic Medicine, Monash University, Victorian Institute of Forensic Medicine and Victorian Managed Insurance Authority (VMIA).

REPRODUCTION & COPYRIGHT

This document may be reproduced in its entirety for the purposes of research, teaching and education and may not be sold or used for profit in any way. You may create a web link to its electronic version.

Permission must be obtained for any modification or intended alternative uses of this document. If referring to this publication, the following citation should be used:

Clinical Communiqué [electronic resource]: Department of Forensic Medicine, Monash University, Victorian Institute of Forensic Medicine. Available at: www.vifmcommuniques.org

DISCLAIMER

All cases that are discussed in the Clinical Communiqué are public documents. A document becomes public once the coronial investigation process has been completed and the case is closed. We have made every attempt to ensure that individuals and organizations are de-identified. The views and conclusions are those of the authors and do not necessarily represent those of Victorian Managed Insurance Authority, the individual Coroner, the Coroners Court, Department of Health, Department of Forensic Medicine, Victorian Institute of Forensic Medicine or Monash University. If you would like to examine the case in greater detail, please contact us and we will provide the relevant website for the Coroners Court jurisdiction.

FEEDBACK

The editorial team is keen to receive feedback about this communication especially in relation to changes in clinical practice. Please email your comments, questions and suggestions to: clinical.communicue@vifm.org

EDITORIAL (Continued)

Communication is a two-way street and there are a number of factors that can affect the successful transfer of information. The language needs to suit the context (i.e. be given in a way that will 'make sense'); the content needs to be inclusive (i.e. leaving nothing out that is relevant); and the information needs to be received and understood (i.e. the recipient has adequately processed all the information). Using opaque language, omitting crucial details, or a lack of comprehension by the recipient, are all common reasons that underlie poor handover.

One of the most important means of ensuring that good handover occurs is to implement a system that closes the communication loop. There are a number of ways of doing this. A phonecall to verify that critical information has been received. Completing a checklist to acknowledge that everything has been covered. Providing an opportunity for the receiving team to recap the information and allowing a conversation between both parties to occur. Such systems safeguard effective handover when there is urgent or time-critical information. In addition to these processes, it is essential that all the information is documented clearly and is easily retrievable.

Finally, differences in specialist knowledge and experience between two parties may influence the quality, type and comprehension of information being communicated. Therefore, these differences must be taken into account and accommodated for. The expert commentary in this edition further explores the concepts of communication and decision-making between novices and experts.

Thankyou for your feedback, we always place great value in hearing from our subscribers. Your thoughts and insights on the cases, and on issues relating to patient safety, will help guide our future directions. Once again, we hope that this edition of the Clinical Communiqué will encourage you to think about your clinical practices, talk about the cases with your colleagues, and identify the areas that could be changed in your workplace to improve patient care.

[^] Australian Medical Association. Safe handover: safe patients. Guidance on clinical handover for clinicians and managers. Canberra: Australian Medical Association; 2006.

CASE #1 LOST IN TRANSLATION

Case Number: COR 2010 003344 VIC
Case Précis Author:
Dr Nicola Cunningham FACEM

CLINICAL SUMMARY

Mr EF was an 81 year old male with a past medical history of cerebrovascular disease and an inguinal hernia repair. One evening, Mr EF called his niece and complained of severe abdominal pain that had been present for several hours. She called an ambulance and Mr EF was taken to a nearby private hospital emergency department (ED). Mr EF told staff the pain began around 08:00 hours that day.

Mr EF's niece wrote a letter to the court stating a number of concerns including the management of her uncle in the ED and pre-operatively.

He was seen by an emergency physician (Dr DW) who found no abdominal guarding, and arranged for him to have blood tests and a CT scan of his abdomen. The blood results showed both the white cell count and lactate level were elevated. The scan was performed at 23:00 hours and Dr DW received a facsimile of the radiologist's (Dr EH's) report two hours later describing, *"small right inguinal hernia involves the caecum and there is generalised mild small bowel dilatation. This is complicated by a mesenteric twist along the mid descending superior mesenteric vessels"*.

On the basis of the report, Dr DW determined that there was no evidence of bowel perforation or ischaemia and as Mr EF's clinical signs were stable, he could remain in ED overnight for review by a surgeon in the morning. Mr EF required intravenous morphine overnight and on two occasions became restless and pulled out his intravenous cannula.

The following morning, a surgeon saw Mr EF and noted that his abdomen was tender with rigidity, and there was a right inguinal hernia that was irreducible. He decided to perform a laparotomy on the basis of the clinical examination. The surgeon was not aware a CT had been done, so did not review the report. He contacted the niece who asked to see her uncle before the operation, so it was agreed that another case would be done first in theatre to allow time for the niece to arrive. That case took longer than expected and Mr EF was taken to theatre at approximately 14:35 hours, more than 30 hours from the onset of pain.

During the laparotomy, Mr EF was found to have a twist of the small intestine with established infarction involving most of the small bowel. His condition was not survivable and he was transferred to the intensive care unit where he died a few hours later.

PATHOLOGY

An autopsy was performed and the cause of death was listed as infarcted small bowel.

INVESTIGATION

Mr EF's niece wrote a letter to the court stating a number of concerns including the management of her uncle in the ED and pre-operatively. An inquest was held to examine the issues of the radiology diagnosis and the communication between staff of the diagnosis and the seriousness of the condition, as well as the delay between admission and surgery.

At inquest, Mr EF's niece testified that she had informed staff her uncle was stoic and not forthcoming with symptoms. She had also communicated to staff her concern that he may have been suffering a strangulated hernia and needed emergency surgery.

Dr DW testified that he was able to elicit information from Mr EF and found no evidence of a strangulated hernia on examination. He did not interpret Dr EH's report as suggesting a small bowel volvulus or the presence of bowel ischaemia, and so did not perceive any life-threatening condition expressed in the report. Therefore, he did not contact the radiologist for clarification, nor did he deem it necessary to call the surgeon overnight. He added that in his experience, a radiologist would phone about radiological evidence that required a surgical opinion.

The coroner noted that although Dr EH ought to have included a recommendation for a surgical opinion in the report and called Dr DW, failure to do so did not cause or contribute to death.

Dr EH testified that she expected the clinician to understand her reference to a mesenteric twist to signify a twisted bowel. She acknowledged that in hindsight, she would have phoned the clinician, and added to the report, *"doctor contacted about the serious or life threatening condition, recommend surgery"*. The surgeon believed he was undertaking a hernia repair, so had decided not to operate on Mr EF immediately since he was

haemodynamically stable, to enable the niece to arrive first. He opined that an earlier operation would not have changed the outcome, as the small intestine was unable to survive an interruption to its blood supply of over one hour.

Expert opinions were sought from a consultant radiologist and an emergency physician. The consultant radiologist noted that although Dr DW had failed to appreciate the significance of the term mesenteric twist, the onus was on the radiologist to make contact and communicate the seriousness of the findings. The expert did not disagree with the diagnosis but explained that clinicians may be more comfortable reading clinical terms such as "volvulus" rather than descriptive terms such as "twist".

The expert emergency physician was provided with documents relating to Mr EF's ED presentation and the CT report, to suggest a reasonable course of action without the benefit of information about the cause of death or scope of the inquest. The expert stated that the wording in the report did not necessarily qualify as a time-critical finding, particularly as there was no explicit reference to impaired blood supply. He suggested that in the context of the raised lactate, he may have phoned the radiologist to seek clarification.

CORONER'S FINDINGS

The coroner did not make any adverse findings against the treating clinicians, as they did not depart from the prevailing standards of their respective professions. The coroner noted that although Dr EH ought to have included a recommendation for a surgical opinion in the report and called Dr DW, failure to do so did not cause or contribute to death. Mr EF's bowel ischaemia was likely to have been well-established by the evening of his arrival to hospital.

EDITOR'S COMMENTS

Comprehension breakdowns in clinical handover can cause delays in diagnosis or definitive treatment, potentially leading to patient harm. This case illustrates how the use of specialised language and the absence of highlighting a time critical problem led to an under-interpretation of clinical urgency. Handover requires both parties to ensure that all the information is provided and received, AND to also be assured that the information is transferred in a common language so that significant findings are not lost in translation.

KEYWORDS

Communication, laparotomy, bowel ischaemia, CT scan, report, handover

CASE #2 A CATASTROPHIC CASCADE

Case Number: A 0032/2010 NT
Case Précis Author:
Dr Nicola Cunningham FACEM

CLINICAL SUMMARY

Mrs LT was a 34 year old female in the third trimester of her pregnancy. Other than diet-controlled gestational diabetes, her pregnancy had been uneventful. She had two children who had been delivered via caesarean sections four and seven years earlier.

Mrs LT went into hospital for a booked caesarean delivery and delivered a baby girl without incident. Approximately 10 minutes after delivery however, the obstetrician (Dr H) found the uterus was not contracting well and suspected placenta accreta (when the placenta attaches itself too deeply into the uterine wall). She alerted the anaesthetist (Dr G) to her concerns and attempted to separate the placenta from the wall.

The uterus began to bleed profusely and Mrs LT's blood pressure dropped so Dr H lifted the uterus out of the peritoneal cavity for better access. An assistant provided manual compression of the uterus. Meanwhile, Dr G requested cross-matched blood, and administered metaraminol (a vasopressor) to increase the blood pressure, and oxytocin to assist uterine contraction. The uterus appeared to respond and the bleeding settled so Dr H sutured the wound and completed the operation.

In large doses, unmetabolised drug can enter the circulation and have significant effects on the cardiovascular system.

Dr H then conducted a vaginal examination and found the uterus was still bleeding heavily. Dr H expressed the clots, administered four misoprostol tablets into the uterus to contract the muscle, performed bimanual compression, and called another obstetrician (Dr L) for assistance. By this stage, Mrs LT was estimated to have lost at least 50% of her blood volume. The treating team recognised Mrs LT was shocked from a massive post-partum haemorrhage (PPH) and went on to place her under a general anaesthetic. It was approximately one hour since delivery. An intra-uterine balloon was inserted and a blood transfusion commenced.

Dr L arrived and Dr H advised that she had seen two of the misoprostol tablets fall out and was considering inserting more, however Dr L suggested an injection of prostaglandin F2 alpha (PGF2 α – a potent smooth muscle contractor). Dr L prepared the injection and administered the drug in two doses of 1.5 mg only minutes apart from one another. Almost immediately, Mrs LT's blood pressure rose dramatically and she went into cardiac arrest. After approximately 25 minutes of CPR, Mrs LT's rhythm returned. She continued to bleed heavily from the vagina and required high doses of vasopressors. She arrested again and her circulation returned once more after a few minutes of CPR. A decision was made to perform a hysterectomy. She was transferred to the intensive care unit with multiorgan failure and was declared deceased approximately 5 hours after delivery.

PATHOLOGY

A post mortem examination was conducted and the cause of death was confirmed as catastrophic post-partum haemorrhage.

INVESTIGATION

Mrs LT's death was reported to the coroner as an unexpected death and her husband requested a public inquiry. The treating doctors were called to give evidence at the inquest and reports from an independent review commissioned by the hospital were tendered into evidence.

An obstetrician who co-authored the independent review gave expert testimony. The expert stated that the 'unheralded' PPH was an incredibly difficult situation to manage, and the actions taken by Dr H were '*entirely reasonable*'. The expert described the metabolism of PGF2 α , which should be administered in 3 separate doses of 1mg, 10-15 minutes apart to allow metabolism by the lungs. In large doses, unmetabolised drug can enter the circulation and have significant effects on the cardiovascular system. The expert opined that the administration of the PGF2 α and the arrest were probably related but added that in Mrs LT's critical condition, she may have reacted similarly to a normal dose.

The issue of communication between the doctors was raised at inquest. Dr L was unaware that Mrs LT had suffered significant drops in blood pressure requiring vasopressors. Dr L stated that had she known, she would not have suggested further medical management, and would have recommended a peri-partum hysterectomy. Dr G had not been made aware of the decision to administer PGF2 α and therefore had not been alerted to the potential for cardiovascular collapse occurring at that moment.

Dr H and Dr L had not discussed with each other the amount and timing of the PGF2 α administration.

CORONER'S FINDINGS

The coroner made a finding that the placenta accreta caused the massive PPH. Although the coroner found that the administration of PGF2 α brought about Mrs LT's arrest when she was already severely compromised, the coroner did not find that death would have been prevented had the mistake in administration not occurred.

The Identify, Situation, Background, Assessment and Recommendation (ISBAR) technique is one example of a structured approach to communication in healthcare settings.

Instead, the coroner acknowledged that the doctors involved had done their best to try to save Mrs LT's life.

The coroner placed more significance on the breakdown in communication between the teams, and the impact that had on the care provided.

The coroner concluded by noting the recommendations set out in the independent review. They included: development of clear protocols and training for the management of PPH, provision of a flow chart in the operating theatre and labour ward for the use of PGF2 α ; and the use of multidisciplinary hospital drills in the management of massive PPH.

EDITOR'S COMMENTS

PPH is a true obstetric emergency. In the setting of placenta accreta and massive bleeding, the clinicians were faced with an unanticipated condition and had to deal with a rapidly deteriorating state. In such highly charged and complex situations, lapses in effective communication are more likely to occur. It is therefore imperative that clinicians become adept at communicating important information to their peers in a manner that is efficient, unambiguous, and comprehensive. The Identify, Situation, Background, Assessment and Recommendation (ISBAR) technique is one example of a structured approach to communication in healthcare settings. Incorporating good handover skills into all aspects of clinical work, and reinforcing those skills on a daily basis, ensures that vital exchange of information will not be lost, especially, in an emergency.

KEYWORDS

Postpartum haemorrhage, medication, prostaglandin, communication, handover

CASE #3 CLINICAL PICTURE OR DIGITAL PICTURES?

Case Number: 22/2011 SA
Case Précis Author:
Dr Adam O'Brien FACEM

CLINICAL SUMMARY

AS was a ten year old female diagnosed with congenital hydrocephalus early in her life. It was managed with a ventriculoperitoneal shunt (VPS), which drained excess cerebrospinal fluid (CSF) from her brain into the intraperitoneal space of her abdomen. A blockage of the VPS could cause a build up of CSF with consequent raised intracranial pressure (ICP). During her life she experienced seizures and episodic but self-resolving gastrointestinal illnesses.

One morning her father found that she had vomited copiously in bed. Although initially slow to move she improved after a bath, which was similar to previous gastrointestinal episodes. Over the next 36 hours she complained of headaches and was lethargic, and seemed to slowly recover until she had an atypical generalized tonic seizure. By the time the paramedics arrived AS had improved, but she was nonetheless conveyed to the nearest tertiary hospital for assessment. During the transfer she became increasingly sleepy and had a slowing respiratory rate.

AS was seen by an emergency medicine registrar on arrival at the emergency department (ED) at 17:50 hours. She had a Glasgow Coma Score (GCS) of 3 and looked pale and flat. She had small, non-reactive pupils, with the left eye deviated medially. There was also generalised increased muscular tone. She became apnoeic for which she was intubated and ventilated, with midazolam used for induction. The midazolam appeared to improve her tone and eye deviation. A blocked VPS was considered the most likely cause of her deterioration. She was given mannitol and the neurosurgery registrar was called.

The neurosurgery registrar's notes described a suspected seizure, secondary to shunt malformation, with or without an infection.

AS had a CT brain at approximately 19:10 hours, which showed dilated ventricles with no active evidence of coning[^]. She had a previous CT brain five years earlier and, although the written reports were available, the hard copy images had been archived. A more recent CT brain from eighteen months earlier was at another hospital. The radiology registrar wanted previous images before deciding whether

the presence of dilated ventricles was her baseline or an acute change resulting from a blocked VPS. The radiology consultant was requested to attend the hospital and arrived at approximately 20:15 hours, the same time as the archived CT images became available.

The coroner commented that the information regarding the respiratory arrest should have been taken into account...

The neurosurgery consultant was notified by his registrar and AS was admitted to the intensive care unit (ICU) at 19:25 hours, with a plan for the paediatric retrieval team to transfer her to the nearest paediatric ICU. The team arrived at 20:35 hours at which time her pupils became dilated, necessitating the insertion of an external ventricular drain (EVD) by the neurosurgery registrar at 20:45 hours. CSF was released through the EVD under high pressure. The neurosurgery consultant was called again and asked to attend. In the meantime, the radiology consultant, after viewing the archived CT images concluded that there were changes consistent with raised ICP giving rise to high suspicion of shunt blockage. The neurosurgery consultant arrived at the hospital at 21:10 hours and proceeded to insert a second EVD in theatre.

AS was transferred to the paediatric ICU, where she died four days later.

PATHOLOGY

The pathologist's cause of death was 'congenital hydrocephalus'. There was discussion during the inquest about the mode of death being related to prolonged raised ICP with resultant hypoxic ischaemia of the brain.

INVESTIGATION

An inquest was held and the staff involved in the management of AS gave written and oral evidence. Expert opinions were obtained from a neurosurgical consultant, a consultant radiologist, and a medical director of a health service who had experience with mortality committees.

The emergency registrar believed the presentation to be less likely due to a seizure and more likely the result of a blocked shunt or infection of the brain. He was concerned about the appearance on CT of very large ventricles in the setting of a shunt and respiratory arrest. Nevertheless, he was content to be led by neurosurgical advice.

The neurosurgery registrar's notes described a suspected seizure, secondary to shunt malformation, with or without an infection. It appeared that she believed the midazolam had been given to terminate a seizure. The notes did not include mention of the respiratory arrest prior to intubation.

On questioning it was established that this important piece of information was either not conveyed to, or registered by the neurosurgery registrar and consequently not passed on to the neurosurgery consultant. Although it was agreed that the information would be significant in terms of an increased suspicion of raised ICP, it was not established whether the management would have changed.

One expert stated that the diagnosis of raised ICP secondary to a blocked VPS could have been made on the presenting features (preceding drowsiness, headache, vomiting, respiratory arrest); and that too much diagnostic reliance was placed on imaging when clinical signs of raised ICP were reliable. Another expert considered that obtaining the CT brain in the acute setting was appropriate to confirm the diagnosis and aid the surgery to re-establish CSF drainage. That expert believed however, that a comparison of the images with the wording of the previous reports should have been sufficient to identify the acute changes. The third expert opined that there was too little difference between the new CT brain and previous reports to make a diagnosis of raised ICP.

CORONER'S FINDINGS

The coroner commented that the information regarding the respiratory arrest should have been taken into account by the neurosurgery registrar, though was unable to state whether or not this would have made a difference to the overall assessment.

Critical information is often delivered by a novice and received (passively) or extracted (actively) by an expert.

The coroner found that the correct diagnosis was made, but only after a significant delay. There was no criticism of the decision to proceed to a CT brain, or of the initial lack of certainty by the registrars in relation to the significance of the images. The delay in retrieving the archived images was approximately 100 minutes. Therefore, the delay in diagnosis (and insertion of an EVD) could have been avoided if there was digitalisation of radiological imagery and an accessible centralised digital storage system in place. Notwithstanding the availability of CT imagery, the coroner emphasised that the clinical presentation is crucial in terms of any diagnostic evaluation. The case served as a reminder that children can deteriorate quickly, and that classic symptoms and signs may not always be present.

CASE #3 (Continued)

EDITOR'S COMMENTS

Specialist neurosurgeons or emergency physicians could have been expected to collate the available information in this case and come to the conclusion that urgent neurosurgical intervention was required. In this time-critical situation the collective decision making of the junior staff was over-reliant upon radiological information. Critical information is often delivered by a novice and received (passively) or extracted (actively) by an expert. It is preferable to be active in seeking and questioning information. Optimising the transfer of information is key to reducing the gap in expertise that occurs when specialists are not at the bedside.

KEYWORDS

Ventriculoperitoneal shunt, raised intracranial pressure, CT scan, communication, handover

[^] Coning refers to the process whereby the cerebellar tissue herniates through the foramen magnum, compressing the brain stem. A tight and effaced foramen magnum is a CT sign of imminent coning

EXPERT COMMENTARY

NOVICES AND EXPERTS - BRIDGING THE GAP

Dr Karen Dunn
MBBS, FRACP, PhD, BMedSci
Paediatric Emergency Physician
Quality/Clinical Risk Portfolio for the
Emergency Department
Royal Children's Hospital, Melbourne,
Australia

The unfortunate case of the blocked VPS has a number of elements that are seen in many cases presented before the coroner. The patient has a complex condition, her deterioration waxes and wanes, and there are signs and symptoms that could fit in with previous illnesses but others that are new.

Novices often feel compelled to make the right decision and want to gather all the information according to 'the rules' they have been taught before making the decision.

She arrives at hospital in the evening (out of hours) and is seen by a series of registrars who have limited experience in the field in which they are training.

The experts in the field are not in the hospital, they are consulted and give opinions based on the information they receive, but the urgency of the situation is not appreciated and/or not conveyed to them. It is only when the situation is truly dire that definitive action occurs. And retrospectively, people wonder 'why didn't we act sooner?'

The time-critical intervention needed for AS depended upon the decision-making skills of those who were with her. Clinical decision-making is a skill that is gained with experience. The expert has learnt to deal with complexity, be receptive to nuance, to recognise urgency, predict outcomes, to make decisions based on incomplete information, and to accept that an action may prove to be incorrect but was the 'most right' one to make at the time. They also have insight into their own thinking processes and personality, are better able to contain negative emotions and weigh up the opinion of others, and know how to get the team to work effectively. Novices often feel compelled to make the right decision and want to gather all the information according to 'the rules' they have been taught before making the decision. They have a limited knowledge base and are uncomfortable with uncertainty and the negative emotion it may impart.

They may have little experience in performing the task that is consequent to their decision, so rationalise against the decision. They are more likely to be influenced by the opinion of others, and to defer to other's 'expertise' even if they suspect it is wrong.

The information being conveyed by telephone is not the same as being there.

Bridging the gap requires both the experts and novices to be aware of these differences. Novices need to recognise their limitations, understand that they are in training and are not expected to perform like an expert.

Experts need to be aware that the thinking processes of novices are not equivalent to their own and that the information being conveyed by telephone is not the same as being there.

LIST OF RESOURCES

LOST IN TRANSLATION

Australian Commission on Safety and Quality in Health Care (2010). The OSSIE Guide to Clinical Handover Improvement. Sydney, ACSQHC. Available at: <http://www.safetyandquality.gov.au/wp-content/uploads/2012/01/ossie.pdf>

Jorm C, White S, Kaneen T. Clinical handover: critical communications. Med J Aust 2009; 190 (11): S108-S109. Available at: <https://www.mja.com.au/journal/2009/190/11/clinical-handover-critical-communications>

[Clinical Communiqué Volume 1 Issue 1 September 2014](#), which focused on the National Safety and Quality Health Service Standards. Case #3 ('Hard to swallow') discussed the issue of handover.

A CATASTROPHIC CASCADE

Management of Postpartum Haemorrhage (PPH). Royal Australian and New Zealand College of Obstetricians and Gynaecologists, College Guidelines. Available at: www.ranzcog.edu.au/doc/management-of-postpartum-haemorrhage.html

Marshall S, Harrision J, Flanagan B. The teaching of a structured tool improves the clarity and content of interprofessional clinical communication. *Qual Saf Health Care* 2009; 18: 137-140.

Shoushtarian M, Barnett M, McMahon F, Ferris J. Impact of introducing Practical Obstetric Multi-Professional Training (PROMPT) into maternity units in Victoria, Australia. *BJOG* 2014; 121(13):1710-8. Further information available at: <https://www.vmia.vic.gov.au/learn/clinical-risk/prompt>.

NOVICES AND EXPERTS - BRIDGING THE GAP

Smith M, Higgs J, Ellis E. Factors influencing clinical decision making. In: Higgs J, Jones M, Loftus S, Christensen N (eds). *Clinical Reasoning in the Health Professions*; Feb 2008, Butterworth Heinemann.

Crebbin W, Beasley S, Watters D. Clinical decision making: how surgeons do it. *ANZ J Surg* 2013; 83: 422-428.

Campbell G, Watters D. Making decisions in emergency surgery. *ANZ J Surg* 2013; 83: 429-433.