

# Clinical decision making: treating an acute ankle injury



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The role of Emergency Nurse Practitioners (ENP's) has changed over the last few decades. Due to ever increasing pressure in primary care and emergency departments the role was developed to help combat the shortage of doctors. ENP's have helped to improve patient satisfaction, reduce waiting times and provide quality care (Horrocks et al., 2002). During a decision making process we rely on a variety of sources for the information that we need. Experience, our stored knowledge or facts, the expertise of our senior colleagues and often look for validated evidenced based research to aid our decisions (Thompson and Dowding, 2002).

ENP's face challenges everyday in the decisions that they're required to make. Their role depends upon a way of working that is independent and autonomous that allows for a diagnoses and initiation of a care pathway for a wide range of patient groups (Himmel et al., 2015). However, Kahneman (2011) explains that the unpredictability of different clinical settings can present additional problems to the decisions that ENP's have to make. Essentially ENP's need to have the ability to make appropriate judgements and choices for their patients, which will provide a safe and efficient method of care (Thompson et al., 2013). It is believed that ENP's in various care environments can make up to 1428 decisions over a 12 hour shift. These decisions are generally built around clues from the patient's presentation and require an in depth understanding of the potential problem to be able to rule it in or out (Bucknall, 2001).

The purpose of this essay is to outline and discuss a number of decisions making theories and show how someone using a rationalist approach may make decisions differently compared to a hypothetico-deductive or

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phenomenological approach and present how no individual model can be applied single handedly. The case in question relates to a 73 year old female who had pain in her right ankle after having a fall in her house. The patient stated she tripped over some shoes in the hallway and felt like she rolled her ankle. She had pain straight after the incident and as time went on started to become less mobile. She called 111 for advice and was sent an ambulance for further assessment. A physical assessment was conducted and the OTTAWA Ankle Rules (MdCalc, 2019) were applied. The patient was found to not need an X-Ray and could be discharged at home with the diagnosis of a grade 1 sprain and advised to rest, ice and elevate. Further instructions suggested she took regular NSAIDs and paracetamol and should try to limit walking on her ankle for a few days. Strong safety netting and worsening symptoms were given and the patient was told when to seek further medical help.

A rationalist approach to decision making is seen as a multi-step process that allows for choices to be made between various alternatives. It favours logic, objectivity and analysis over subjectivity and insight (Lumen, 2019). The critical data is known prior and ranked accordingly, allowing for deliberate decisions to be made through a sequential analytical process resulting in a clear start and finish point (Jones and Beck, 1996). Generally, a rationalist method tends to take more control over the decision making process but requires a greater amount of information and resources. It typically focuses on the use of guidelines, assessment tools, and policy and procedures (Etzioni, 1967).

Specifically, the use of clinical guidelines are at the forefront of the NHS goal to improve care quality (DOH, 1997). They assist clinicians by outlining the need for specific healthcare decisions during certain circumstances and provide recommendation on how to treat various conditions or particular sets of symptoms (Institute of Medicine, 1992). One of the main benefits of using guidelines during decision making is that they can offer knowledge that clinicians can call upon at any time and help to outline a set course of treatment or interventions that is clinical validated (Rycroft-Malone and Duff, 2000).

One of the key strengths of using a rationalist approach to decision making is the reduced rate of error, assumptions, guesswork and subjectively. It is able to create consistently high quality decisions but at a significantly lower rate of risk and uncertainty (Carey, 2011). Particularly for inexperienced staff, the use of a rationalist decision making tool, algorithm or guideline is beneficial as they can lack the past experience or knowledge to draw upon and assist them in their practice (McCaughey and Bruning, 2010). This is backed up by Field and Lohr (1990) who believe that ENP's that use guidelines will help to reduce errors in practice and discourage treatment plans that don't have sufficient evidence to back them up.

However, the use of a rationalist approach to decision making can lead to unrealistic expectations on how the decision making process should work. It also has been found to take an excessive amount of time to complete, especially if all steps are followed and can narrow interactive and thought processing, rendering it counterproductive (Jones and Beck, 1996). Not only that but by following a structured approach can lead to uncertainty over <https://assignbuster.com/clinical-decision-making-treating-an-acute-ankle-injury/>

whether the information you're using is correct. For example referring to textbooks or research articles may be useful but only if the clinician is certain it is the most up-to-date evidence available (Wulff and Gotzsche, 2000).

Within the context of this case study, a rationalist approach was the use of the OTTAWA Ankle Rules. These rules were developed to aid medical professionals during ankle assessments to determine whether an X-Ray was required. Since the initial study by Steill et al. (1992) the OTTAWA Ankle rules have been further validated and now is widely used and accepted in all clinical settings. In this example the patient was found to be OTTAWA negative and therefore not required to be sent to have an X-Ray.

The hypothetico-deductive approach to decision making, in contrast to a rationalist approach, involves making conscious clinical hypotheses based on the data that clinicians are able to extract from their patients. An example would be using the signs and symptoms of an illness or injury and identifying which key cues can be related to a possible diagnosis (Riley, 2003). It is believed to be the most common form of diagnostic reasoning used by clinicians in primary and ambulance care settings. Generally it is used by experienced clinicians to include or exclude multiple diagnoses and when one is no longer believed to be the problem, another is implemented (Coderre, et al., 2003). Newell and Simon (1973) agreed by suggesting that during the decision making process doctors and nurses are bounded by limited human memory capacity. This means that clinicians need to go through a number of reasoning processes and hypotheses to be able to reach their end point.

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Information processing is part of an hypothetico-deductive approach to decision making and is formed by many stages that are often driven by the patient presentation. In 1984 Carevali et al. outlined the most common features of a hypothetico-deductive reasoning process. These included initial exposure to pre-received data, processing this data to create a direction of further data gathering, placing cues into groups and activating a possible diagnosis, then using this hypotheses to continue the data search and finally testing that hypotheses to see if it would fit a final diagnosis. For example, during a consultation a clinician will weigh up the pros and cons for each hypothesis and choose the one favoured by the majority of the available data that was gathered.

However, Cioffi (2002) explains that using a hypothetico-deductive theory to decision making can lead to high levels of uncertainty, particularly when the patients diagnosis isn't easily identifiable or they present with multiple pre-existing medical conditions that might conflict the acute problem. With others (Newell, 1973 & Groen and Patel, 1985) suggesting that the hypothetico-deductive approach is seen as a general strategy to making clinical decisions and see it as a weak method of problem solving.

Yet, Croskerry (2013) explains how using a more analytical approach to decision making can have a positive effect on reducing clinical uncertainty and bias and concludes that a move towards a hypothetico-deductive way of reasoning is key to continually push evidence based practice and clinical excellence. Pearson (2013) also showed that hypothetico-deductive reasoning to be structured and built upon science, allowing for analytical

processes to evolve clinical thinking. This positively results in it being a measurable, valid and reliable way of solving problems.

This approach to decision making was used multiple times during the case study in question. Firstly, even prior to seeing the patient, hypotheses were drawn based on the initial information given. Simply by reading ‘fall’ and ‘ankle pain’ led to the assumptions that this patient would have either sustained an ankle fracture or sprain. Also, following initial consultation a fracture was believed to be the most likely diagnosis due to worsening symptoms and physical findings, however after using the OTTAWA Ankle rules the hypothesis changed and it was decided the patient had suffered a sprain. Even then this diagnosis needed to be tested and assessed by looking into the different grading of sprains and their related symptoms and therefore allowing a grade 1 sprain to be diagnosed.

Alternatively, Benner (1984) was one of the original researchers of the phenomenological approach, often referred to as the ‘intuition’ method and is believed to be linked to a clinician's development from novice to expert. It was discovered that decisions were based on rational thought and distinguishes the expert from the novice, with the senior clinician no longer needing to rely on analytical formula to understand the situation and automatically proceed with the correct course of treatment. This was backed up by Schrader and Fisher (1987) who stated the phenomenological approach was an “immediate knowing of something without the conscious use of reason”.

Intuition is part of many clinical decisions made by ENP's and is believed to be a cognitive function where a decision is made even though there might not be an easily recognisable reason for it (Dowie, 1994). Described as "the supreme mystery of clinical reasoning" (Sox, et al., 2013), it is known that intuitive expertise requires a high degree of clinical knowledge and understanding of the subject to be able to make effective decisions.

However, not without limitations, this approach to decision making can lead to uncertainty of actual findings and risk of bias (Tversky and Kahneman, 1974).

Some literature has shown that ENP's find a phenomenological approach valuable to their practice and when combined with evidence can lead to the best possible care for their patients (Rew and Barrow, 2007). Research has also shown that experienced ENP's make better decisions compared to inexperienced colleagues and often prefer to include intuition in their practice. This leads to a new found confidence in their skills and allows for a better connection with patients (Pretz and Folse, 2011).

Green (2012) believed that repeated exposure to specific patterns identified by clinicians during consultation forms the basis to being able to make intuitive decisions. When Hoffman et al. (2009) discovered that novice and expert nurses collect cues differently, it was shown that the increased proactiveness of expert nurses allowed for better anticipation of problems based on these cues and allowed for reduced rates of wrong diagnosis.

Pattern recognition is an example of a process linked to a phenomenological approach and contributes to previous exposure to patient data that may

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relate to the present situation. It configures a key part of critical thinking and expert decision making and usually happens during the diagnostic phase of an examination (Pelaccia, et al., 2009). However, merely focusing on the initial signs and symptoms without thorough investigation could be the deciding factor as to whether a diagnosis is made or not but more crucially whether the wrong diagnosis is made (Banning, 2006).

Corcoran (1986) summarised that inexperienced staff would not be able to solely adapt a phenomenological way of thinking due to the way that they process information. They tend not to reflect on past experience and generally can't understand a broader range of clinical factors. Their backwards way of reasoning can also lead to errors in judgment and wrong clinical choices.

Importantly, it is worth noting a process called premature closure bias when talking about pattern recognition as it is the most prevalent source of errors in decision making. An example would be when a decision is made early on without being fully investigated when there maybe other possible alternatives (Harteis and Billett, 2013).

Another issue with the phenomenological approach was outlined by De Bono (1977) who found that the risk of making decisions through pattern recognition can lead practitioners, particularly inexperienced ones, to focus too much on looking at the signs and symptoms of specific patterns and therefore may overlook other potentially significant information. They may also find it difficult to look past anything other than the most familiar patterns. Higgs et al. (2008) goes on to say that patterns often become

fixed, making it hard to see other variable points. Clinicians may also place excessive focus on a favourable sequences because it is found to represent a particular pattern that they have witnessed before. However this is usually identified on limited information.

Nonetheless, there is growing evidence to suggest taking a more intuitive road to decision making is helping to create safer patient care. Krishnan (2018) promotes the use of intuitive thinking within early clinical training to equip clinicians with the confidence to make effective and timely decisions for their patients and helping to achieve better outcomes.

An example of this decision making theory within this case was knowing that the patient was likely to have sustained an ankle sprain or fracture. By believing that a sprain or fracture was the likely diagnosis and then analysing the signs and symptoms present and relating them to past experiences of ankle injuries lead to certain conclusions to be made. For example, on witnessing the patient walking to the door, resulted in a gut feeling that a fracture was the least likely diagnosis. Also, during assessment knowing to palpate certain areas that might indicate fractures enabled relevant information to possibly rule it in or out.

Clinical decision making forms a key part of clinical reasoning and therefore it is important to understand factors that may influence outcome, whether they're positive or negative. With evidenced based decision making becoming more and more prevalent in clinical practice it is often hampered by the influence of governance, policy and procedures and litigation.

Something that further stresses the importance that ENP's can justify their

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decisions. Clinicians can become worried that they may be disciplined for making the wrong clinical decision and therefore might follow a process that is not best suited for that individual patient but fits the policy and procedures that they have been asked to follow (Thompson and Dowding, 2002). In addition to this, Patel et al. (1996) noted that social influences can affect the decision making process and were often driven by the urgency of the situation and whether there was senior staff overlooking the choices made. Although, Smith et al. (2008) mentioned that in most cases staff recognised the need to rely on others to help with the decision making process. Even though this can lead to decreased autonomous decisions making, it can help to support staff and reduce errors created by individual risk-taking behaviour. Similarly, Varcoe et al. (2003) recognised that some staff tend to copy the decisions and actions used by their colleagues instead of applying their own clinical judgment to the situation in fear they will be judged on the outcomes.

Yet, liaising with other staff can have a positive effect on decision makers by having them check for any errors, offer opinions and further knowledge and help to identify possible cues that may have been missed within the patients history. It will help to increase the likelihood of generating an outcome (Larrick, 2004).

Another major issue that adversely affects decision making comes from organisational pressure. Due to increased workload, interruptions and the need to follow policy and procedure all affect the way the right choices are made. Bucknall (2003) found that this often resulted in clinicians

incorporating a change in the way that they make and manage decisions  
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simply to meet these operational demands without weighing up the effect this might have on their patients.

Having looked into the various decisions making theories, it is now clear that during this individual case all three were utilised. Prior to consultation hypotheses were drawn on the possible diagnosis of the patients condition and this resulted in the belief that they would either be found to have a sprain or fracture of the ankle, which fits in with the hypothetico-deductive approach. Even throughout the examination both hypotheses were still in consideration until the a more rationalist application was applied. By using the OTTAWA ankle rules it helped to set out a clear, structured approach to deciding whether the patient would need to attend A&E for an X-Ray. This highly validated assessment tool enables clinician's to follow a set process when they may be unsure of the right treatment pathway for their patient. Even if the outcome is different to the one chosen, the fact that good validated evidence was used, the clinician can justify their reasoning. A phenomenological way of decision making is based on experience and pattern recognition and allows ENP's to make an initial intuitive decision to which way they will treat their patients. This case has shown that this approach could be seen as an overall way of thinking as opposed to how an individual rationalist may make decisions. What this means for this case is that multiple decisions were based on past experiences and opinions, for example how to assessment the patient, linking the signs and symptoms to previous similar cases and knowing how to progress with the treatment plan. Even when the OTTAWA ankle rules were used to decided whether the patient went home or hospital, it was past experience that knew the

OTTAWA Ankle rules needed to be used to determine the correct treatment pathway. Obviously this requires ENP's to have the initial experience in the first place and perhaps a novice clinician may not be able to adapt this way of decision making. It could also be said that depending on the clinical setting a different approach might be used over another. A good example would be an ENP working in hospital might be inclined to follow a rationalist approach compared to ENP's working in primary care where a Phenomenological or hypothetico-deductive approach maybe better suited. Fundamentally, it seems the hypothetico-deductive approach was used to tailor this individual case and manage most of the decisions that had to be made.

Overall, there is a need to have an attentive appreciation of the available decision making theories and know of any limitations they each may have. This will allow ENP's to make effective decisions that they can rely on and communicate them correctly to various other medical professionals. It will promote ENP's to stay up-to-date, creditable and confident in their clinical practice.

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