


# Why 'best practice' is not always best in sport

Will Greenberg,<sup>1</sup> Jo Clubb <sup>2</sup>

As sport and exercise medicine clinicians, we are constantly faced with challenging decisions. We contend with a diverse range of physical and psychological ailments, how to optimise rehabilitation, clear players to return to play and even the advancement of training to improve performance. Accordingly, clinicians often seek to provide evidence-based 'best practice'.<sup>1</sup> Monocausal thinking may drive the adoption of so-called 'best practice'.<sup>2</sup> However, while evidence-based solutions can provide a foundation for decision making, the quest for 'best practice' may often be misplaced given the complexity of both sports performance and injury manifestations.<sup>3,4</sup>

Problems arise in different contexts, requiring different responses. We may use the process of sense-making—defined as 'how we make sense of the world so we can act in it'<sup>5</sup>—to understand and respond to such injury and performance dilemmas. A decision support framework from this field can benefit clinicians by guiding appropriate styles of thinking and responses to the array of problems faced.<sup>6</sup>

## THE CYNEFIN FRAMEWORK

Cynefin (pronounced ku-nev-in) is a conceptual framework used in industry, government and academia that aids decision making. It offers four principal decision-making domains that help to sort problems and identify appropriate responses.<sup>7</sup> The four domains—simple, complicated, complex and chaotic—enable a 'sense of place' from which to analyse a problem and make a decision. **Figure 1** outlines the characteristics of these domains, illustrated with multidisciplinary examples from sports performance.

Here, we discuss each domain and how clinicians can use them to make sense of problems and guide appropriate responses. Examples from sports medicine

are discussed to further illustrate each domain.

### Simple

Simple contexts are characterised by stability, and contain problems that have known cause-and-effect relationships.<sup>7</sup> Best practice resides in this domain due to the predictable nature of these problems. Simple problems, therefore, respond to protocols rather than experimentation.<sup>6</sup>

Wound management of a forehead laceration after a clash of heads may illustrate a simple problem that requires a repeatable, best practice solution. However, if a head injury assessment is also required, this case may simultaneously present problems from other domains.

### Complicated

As with simple problems, those in a complicated domain have known cause-and-effect relationships. These relationships, however, are not obvious to all and, as such, require expertise to understand. Medicine has been successful in the approach to complicated problems, due to the integration of investigation and specialised knowledge.<sup>6</sup>

Good practice, as opposed to best practice, is more appropriate in this domain as multiple solutions exist. Given the need to investigate several suitable options,

clinicians are encouraged to seek diverse expert knowledge.<sup>7</sup>









While a wound laceration presents a simple problem, the diagnosis of a potential concussion from a clash of heads is an illustration of a complicated problem. Specialist knowledge is needed, and team physician evaluation may be assisted by unaffiliated consultants and booth certified spotters such as required in professional American football games.<sup>8</sup>

### Complex

Unlike simple and complicated problems, the cause-and-effect relationship in a complex problem is not known, unless viewed in retrospect, in which case it may still be unknown.<sup>7</sup> Retrospective coherence may bias clinicians to believe that there is a best practice. However, due to the volatility of complex problems, imposing so-called 'best practice' can be ineffective.<sup>6</sup>

Human physiology is a complex entity and an individual's response, such as the response to concussion or any other injury, cannot be guaranteed. As with good practice in the complicated domain, specialist knowledge provides a starting point for rehabilitation. However, given the individual complexity, there is a need to use emergent practice; that is, to allow an individual's response to reveal the path forward.<sup>6,7</sup>

Medical clinicians have previously been warned regarding distinguishing between problems in the complicated domain that require further analysis, and those in the complex domain that warrant trial and error.<sup>6</sup> The interaction of individual patient values and beliefs may often make the complex domain more appropriate.<sup>6</sup>

Cynefin Framework Domains			Examples from High Performance Sport			
Domain	Characteristic	Practice				
<b>SIMPLE</b> 	Repeating patterns, clear cause-and-effect	Best	Acute management of a laceration	Calibrating force plate technology	Using a blood test to assess Vitamin D status	Assessment of speed with timing gates
<b>COMPLICATED</b> 	Expert diagnosis required, cause-and-effect discoverable	Good	Concussion diagnosis	Determining jump height from a force plate	Helping an athlete with weight management	Improving an athlete's speed
<b>COMPLEX</b> 	Unpredictability, cause-and-effect may be understood in retrospect	Emerging	Injury rehabilitation	Predicting injury from training load data	Avoiding illness through diet	Transfer of speed training to field sport
<b>CHAOTIC</b> 	Turbulent, no clear cause-and-effect relationships	Novel	Effect of COVID-19 on rehabilitation	Planning training load during COVID-19	Assisting with meal plan & delivery during lockdown	Writing speed program during COVID-19

**Figure 1** A summary of the Cynefin framework domains with examples from sports medicine, science, nutrition, and strength and conditioning. A black circle (●) represents a problem and a white circle (○) represents a solution.

<sup>1</sup>Sports Performance, Buffalo Bills, Orchard Park, New York, USA

<sup>2</sup>School of Sport, Exercise and Rehabilitation, University of Technology Sydney, Sydney, NSW, Australia

**Correspondence to** Jo Clubb, School of Sport, Exercise and Rehabilitation, University of Technology Sydney, Sydney, NSW, Australia; jo.clubb@acu.edu.au

## Chaotic

Lastly, there are problems that lie in the chaotic domain, which have no cause-and-effect relationships. Accordingly, novel practice is required to establish order before decisions can be made. Emergency situations represent such problems; whereby rapid response is required to gain control. Clinicians may have experienced such problems during the COVID-19 pandemic, as turbulent problems presented themselves and novel practice had to be used.

## CONCLUSION

Exploring decision making through the lens of the Cynefin framework enables the clinician to consider appropriate approaches to addressing different problems. Traditionally, medicine approaches many problems as complicated, requiring analysis and investigation. However, the complexity of human psycho-physiology and social contexts reveals the need to probe, sense and respond to an emergent solution.<sup>6</sup> Given the complexity of injury and performance, this is an equally important consideration for sports clinicians.

Clinicians should seek to understand the context of arising problems and use

the Cynefin framework to determine the corresponding type of practice. Given that many athlete management challenges reside outside the simple domain; the premise of 'best practice' may often be misplaced.

**Twitter** Will Greenberg @Coach\_WillG and Jo Clubb @JoClubbSportSci

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## ORCID iD

Jo Clubb <http://orcid.org/0000-0002-6509-7531>

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