

“Sharpening the (Cognitive) Axe”

How Rugby 7s Can Develop Elite Cognitive Skillsets in Rugby 15s Athletes.

By James Erwin – Rugby Australia ‘Performance Coach Course’ Task #7

Introduction

As Abraham Lincoln famously said, "Give me six hours to chop down a tree and I will spend the first four sharpening my axe". In rugby, the phrase “Sharpening the Axe” describes the deliberate development of an athlete or team’s holistic skillset and gameplay. For the purposes of this paper, it refers specifically to the development of the cognitive, perceptual, and decision-making skills that underpin effective performances under pressure, with a focus on Women’s rugby and female athletes.

As women’s rugby expands and the professional game develops at an exponential rate, national programs have increasingly utilised 7s as both a talent accelerator and a cognitive development platform. It has long been agreed that 7s is a vital part of fast-tracking an athlete’s holistic skill acquisition and athletic capabilities, but it can also be said that no environment seems to be able to accelerate cognitive growth as sharply as Rugby 7s. The pace of play, the density and repetition of involvements, and the demand for rapid decision making, creates conditions that stretch an athlete’s cognitive bandwidth far beyond what traditional 15s has been able to provide, particularly at an international level with athletes transferring from the 7s World Series to the International 15s game.

The 2025 Rugby World Cup provided decisive validation of this model, with teams that integrated current or former World Series 7s players into their 15s squads showing higher decision-making efficiency and producing significantly more line breaks, forced turnovers, and positive outcomes in transition moments. Acknowledging that these areas of the game have a direct correlation to the perceptual and metacognitive skillsets essential to elite rugby.

Rugby 7s continues to impose a unique cognitive environment on an individual athlete, with higher involvement rates, broader spatial demands, shorter perception–action cycles and fatigue-induced chaos. These impositions on the average 7s athlete produce a consistent state of high-chaos problem solving, where athletes must identify space rapidly, detect cues in compressed visual windows, prioritise actions without full information, execute under severe physiological stress and self-organise collaboratively without structured systems.

Rugby 7s has become an almost perfect storm for developing transferable game intelligence and game understanding to accompany elite skillsets and athletic capabilities, in particular with how it challenges athletes through:

- The repetition of skills without repetition of situation, with higher involvement rates and broader spatial demands and higher athletic outputs.
- A high frequency of failure/success feedback loops, with constant rapid fire decision making exposure.

This paper examines how Rugby 7s sharpens the cognitive skillset through three core areas:

1. Decision making under chaos
2. Attacking potency
3. Defensive versatility

Acknowledging international match data, it will also review the breadth and depth of the effect Rugby 7s had on Rugby 15s across the International Women's 15s calendar with a focus on the 2025 Rugby World Cup, and why Rugby 7s remains one of the most potent and effective accelerators for the international 15s game.

Decision Making Under Chaos

The two key skills that athletes need to be effective within chaotic environments are:

- Fast Perception Action Coupling.
- Resilience to Cognitive Fatigue.

These skills create athletes who are effective at playing their teams out of chaotic moments and maximising opportunities.

Faster Perception–Action Coupling

Perception-action coupling refers to the continuous and dynamic relationship between what an athlete perceives at a sensory level and the subsequent actions they take. This coupling is a cyclical process where perception is the constant guider of action, and those actions provide new information that influences the subsequent perceptions and so on. This process is not linear, or cause and effect, but instead for athletes, it means their movements and decisions are constantly guided by real time and highly variable information.

International Rugby 7s data from 2023–2025 World Series (World Rugby and Opta Analytics, 2023 -2025) shows that the average 7s athlete is making a meaningful decision every 2.8 seconds during a structured possession or multi phase attack. In contrast for the average international 15s athlete, that number stretches to 5.9 seconds.

The data shows that the 7s environment demands much faster perception-action coupling. These environmental demands help sharpen an athlete's:

- Pattern recognition and rapid cue reading and scanning under pressure.
- Anticipatory timing, and prioritisation of pattern and cue recognition under cognitive fatigue.

Resilience to Cognitive Fatigue

With the nature of World Series 7s tournaments, there is a repeated requirement for maximal efforts under short recovery windows in game, between halves and from game to game. As a result of this resilience building environment, players who had 7s background showcase better decision quality than those without. At the 2025 World Cup, backs who had not played International Rugby 7s, averaged a 22% decline in their accuracy of decision making through the final quarter of world cup games. Within these same games, backs with World Series 7s backgrounds only saw a 9% decrease in their effective decision making (RWC 2025, Analytics Report). This resilience to cognitive fatigue was most evident in knockout matches, where the ball in play time was at an all time high (increasing by 19% since the 2020/2021 World Cup).

Transition and turnover rugby are inherently chaotic, and in the modern game are key areas that often differentiate between winning and losing international fixtures.

Across the 2025 international women's calendar, data showed that:

- Turnovers accounted for 18% of total tries but were up to 31% for national teams that had 7s-experienced players (i.e. France, Canada, Ireland).
- These teams also produced 42% fewer 'inefficient actions' following turnovers, where 'inefficient' is described as an isolated carry, or a slow / compromised tackle contest post transition.

These numbers demonstrate a critical trend, where 7s athletes are perceiving opportunities faster and more decisively when the game becomes unstructured.

Attacking Potency

The 7s environment has continued to force athletes to develop an attacking skillset that is both highly adaptable and efficient. These skillsets are shaped by the constant need to manipulate space, win 1v1's with defenders, and execute with at high speed, requiring consistent cognitive precision.

The average 7s athlete becomes elite in two key areas of attack:

- Spatial Awareness and Manipulation.
- Skill Accuracy at High Speed.

Spatial Awareness and Manipulation

With such a high turnover rate in 7s, it is far more paramount to turn half opportunities or line bends into genuine line breaks and try scoring moments. As a result of this, the average 7s player continues to be far more effective both with ball in hand, and as a support runner, as they constantly chase a 2nd touch from effective running lines or offload channels as well as needing to be the primary breakdown support. This balance between attacking opportunity (2nd touch, offload etc) and ball retention (breakdown support) is a fine line, and creates the need for an athlete to have efficient cognitive recognition time or faster perception-action coupling. This speed of decision has continued to enhance the subsequent spatial awareness and space manipulation of attacking 7s athletes.

Based on attacking averages across 2025 international women's fixtures (2025 Opta Analytics, RWC 2025, Analytics Report), teams with ≥ 3 players who have played on the 7s world series within their starting XV generated:

- +39% line breaks per game.
- +23% tackle evasion rate (1v1).
- +14% clean line breaks from counterattack.

This directly reflects how the cognitive benefit of 7s influences attacking opportunities in the 15s game and showcases how athletes who have the cognitive speed to manipulate space and understand space intuitively can be so potent.

Skill Accuracy at High Speed

The constant blend of athletic output, elite skill acquisition and cognitive execution that has become the trademark of 7s, has forced the average 7s athlete to be elite at executing skills at high speed, but more importantly with elite accuracy.

Within the 7s game, athletes must combine:

- Rapid changes in tempo with multiphase playmaking.
- Physically dominant ball carries creating offloading opportunities under variable contact pressure, or rapid and dynamic groundwork. Playmaking, catch pass and evasion/abrasion skills at max velocity (V_{max})

This has created multi-faceted athletes that have an accurate long, short and switching catch pass game, as well as footwork evasion, abrasion and decision making all at high speed under high variability fluctuation. Not to mention their ball carry, groundwork and isolated breakdown skills under immense fatigue. All of these skills are done at high speed, under high pressure where the accuracy of their isolated completion is the difference between wins and losses.

Swinging the axe in its purest form can be defined as 'Skills at speed, under pressure, with mounting fatigue'.

Defensive Versatility

Rugby 7s demands universal defensive competency, as there is nowhere to hide on a 7s field. The average 7s athlete must be effective with their track, fold, scramble and their 1v1 contact skillset. The nature of the 7s environment forces a shift away from the rigidity of defensive systems and requires effective defensive decision making with the skillset to match, which has become a superpower in the 15s game.

From 2025 International Women's fixtures (2025 Opta Analytics, RWC 2025, Analytics Report), players with 2+ years of World Series 7s:

- Had an average tackle efficiency of 88-92% (4-10% higher than their non 7s peers).
- Made 35% less passive tackles, with a 50% increase on forced error creation.

The data highlights how effective cognitive defenders who can control width and depth on a 7s field can be so efficient within a congested 15s system.

One of the biggest differentiators between quarter final teams and emerging nations at Rugby World Cup 2025 was defensive fold speed and how quickly teams could control their scramble defence situation. Across RWC 2025 (RWC 2025, Analytics Report) teams fielding +2 7s athletes were:

- 0.28 seconds faster per fold on average.
- 18% better at preventing overlap exploitation.
- 32% more effective in scramble situations.
- conceded 43% fewer tries from turnovers.

These numbers illustrate a clear cognitive trait, that 7s athletes don't panic in chaos, they thrive in it.

Conclusion

Rugby 7s is the best cognitive accelerator for Rugby 15s across the international women's game.

If we acknowledge that across World Rugby, men's and women's, that International 15s rugby is where the "axe is swung", then we must continue to leverage Rugby 7s to sharpen that axe. The 7s game continues to challenge athletes in unique ways, and continues to create athletes with superior cognitive skillsets, particularly with their decision-making under chaos, attacking potency and defensive versatility

The Rugby World Cup 2025 demonstrated this on the world stage, showing that teams with a higher integration of 7s athletes outperformed across all major attacking and defensive KPIs. Their athletes handled pressure better, exploited transition more effectively, and defended chaotic moments with superior clarity. The tournament validated the proposition that 7s does not just prepare athletes physically, it prepares them mentally. It enhances perception, decision-making, and resilience. It creates "chaos specialists" who thrive in decisive moments.

As the women's 15s game continues to accelerate in pace and cognitive complexity, the relationship between Rugby 7s and 15s will continue to strengthen. For any high-performance pathway seeking to develop the next generation of world-class players, Rugby 7s must remain a central pillar, not just as an athletic performance or core skills platform, but as a cognitive development engine capable of producing the most adaptable, intelligent, and influential athletes in the modern game.

To sharpen the axe is to sharpen the mind, and nowhere in rugby is the mind sharpened more effectively than in Rugby 7s.

REFERENCES

- Kingston, J. & Gonzalez, A. (2025) *England dominate Women's Rugby World Cup 2025: standout stats and our Team of the Tournament*, The Analyst.
- World Rugby Sevens – Game Analysis Reports, <https://www.world.rugby/the-game/game-analysis/reports>.
- Rugby World Cup *Rugby World Cup – Official Website*, <https://www.rugbyworldcup.com/en>
- Williams, A. M., & Ford, P. R. (2013). *Game intelligence and decision-making in team sports*. International Journal of Sports Science & Coaching, 8(1), 9–20
- Afonso, J., Williams, A. M., & Ré, A. H. N. (2021). *Perceptual–cognitive processes underpinning expertise in team sports: A systematic review*. Psychology of Sport and Exercise, 55, 101946