

Performance Analysis

Why is it Valuable?

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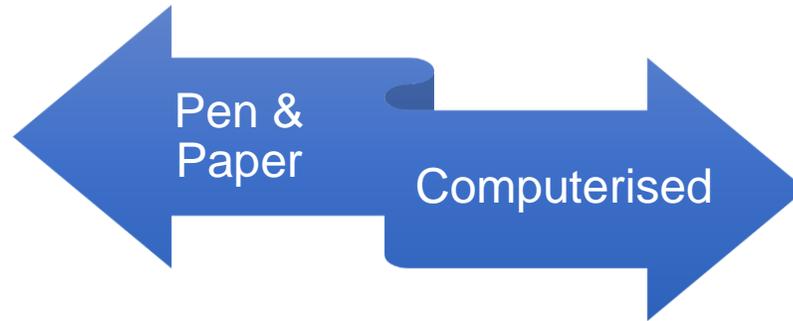
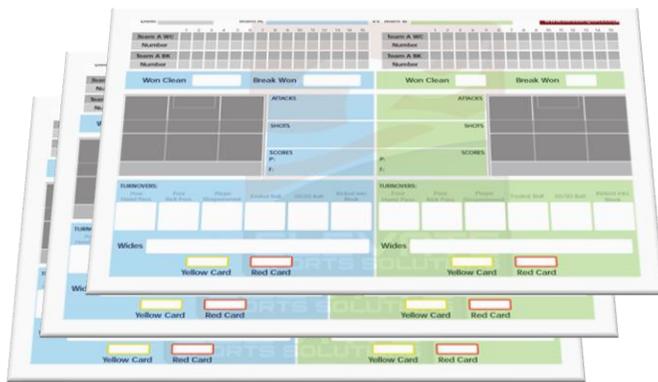
GAA
Learning

RTÉ
Sport

- What is Performance Analysis?
- Where to start
- Looking under the bonnet – Deep Dive



“Performance Analysis is an **objective way** of recording performance so that **key elements** of that performance can be quantified in a **valid and consistent** manner.” (www.ispas.org).



How good are our
performances....really?



Are we getting better?



W

WHERE

DO I

START

?

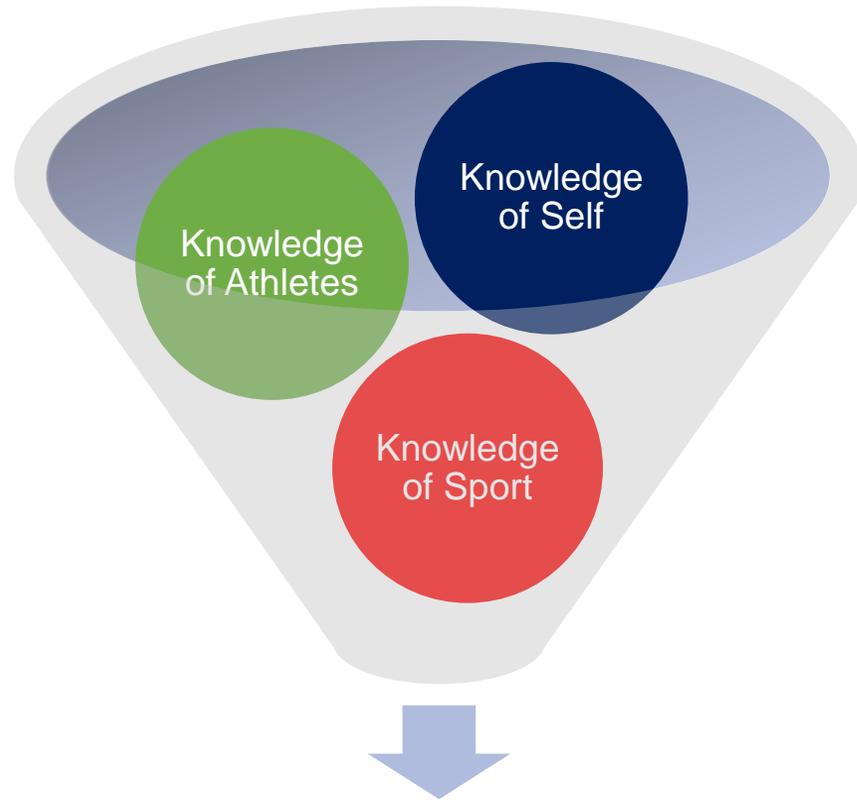
Principles of Play

**HOW DO
YOU
WANT
THE
GAME TO
BE
PLAYED?**



1. What is the game?
2. How is it played?
3. How should it be assessed?





Coaching Philosophy

- Values
- Identity
- Beliefs
- Leadership
- Behaviours

Coaching Effectiveness

Ability to constantly guide athletes and teams to improved performance

Competence, **C**onfidence, **C**onnection and **C**haracter

**Coaching
Philosophy**

Principles of Play

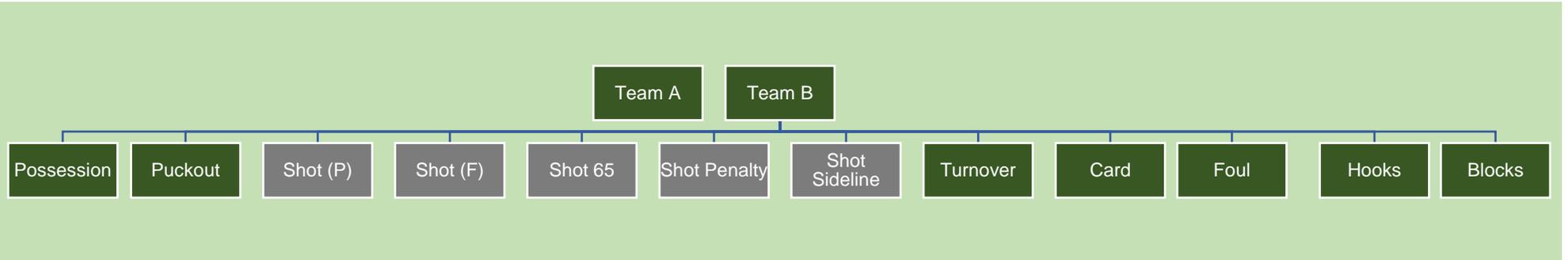
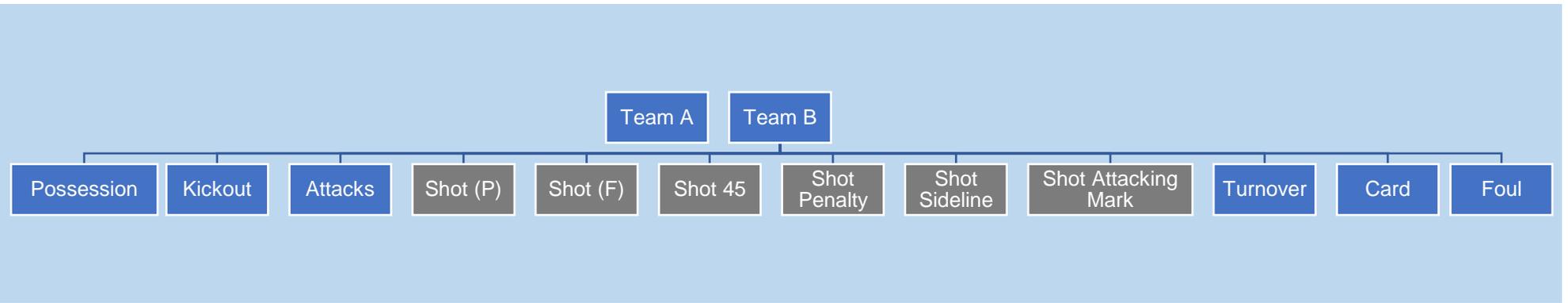
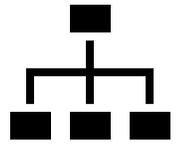
The Environment

The **context** in
which you coach

The **context** in
which the PA
support will be
delivered



Foundations of Performance Analysis in GAA



Evolution of PA along with the game

Possession

Each time a **TEAM** is in control (held in hand) of the ball. One possession will persist until the team loses control of the ball. Does not include GK holding kickout/Puckout.

Productivity

(How well you use your possession)

Number of points scored per 10 possessions. A measure of the effectiveness of possession.

$$\left(\frac{\text{Total Points}}{\text{Team Possessions}} \right) \times 10 = \text{Productivity}$$
$$\left(\frac{24}{44} \right) \times 10 = 5.45 \text{ points per 10 possessions}$$

Turnover Rate

(How much ball you give away)

Number of turnovers lost expressed as a percentage of the total number of team possessions

$$\left(\frac{\text{Turnovers Lost}}{\text{Team Possessions}} \right) \times 100$$
$$\left(\frac{18}{44} \right) \times 100 = 41\%$$



DUBLIN vs **KERRY**



2019 All Ireland Football Final

What does good look like? Gaelic Football

Averages for performance indicators of winning (n = 59) versus losing teams (n = 59) in the 2016 Football Championship

	Winners	Losers
Shots	30	26
Total Points	20	14
Attack Creation	86%	85%
Scoring Efficiency	58%	50%
Productivity	4.1	3.1
Turnover Rate	45%	51%

2019	
4.7	3.5
43%	47%

Pass < 4

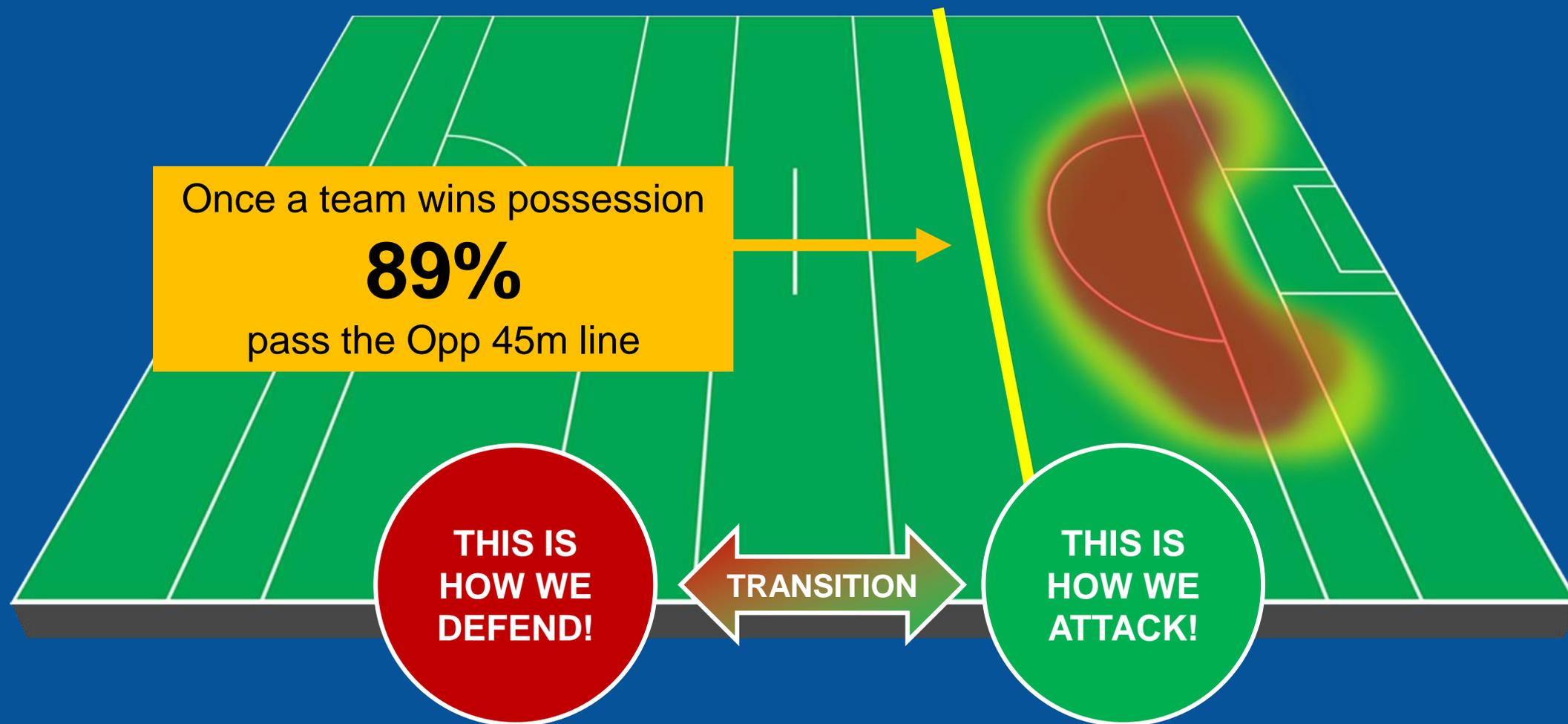
53% shot conversion

Pass 5 -9

64% shot conversion

Performance indicators
in club level Gaelic
football
McGuigan et al., 2018

What we know – Gaelic Football



Based on 25 games from 2019 Championship



DUBLIN 1-18 0-15 KERRY



Replay

SCORE ORIGIN

1st Half

Dublin Kickout	0-06
Kerry Kickout	0-00
Turnover	0-03
Throw In	0-01
	<hr/>
	0-10

2nd Half

Dublin Kickout	0-02
Kerry Kickout	0-00
Turnover	0-06
Throw In	1-00
	<hr/>
	1-08

1st Half

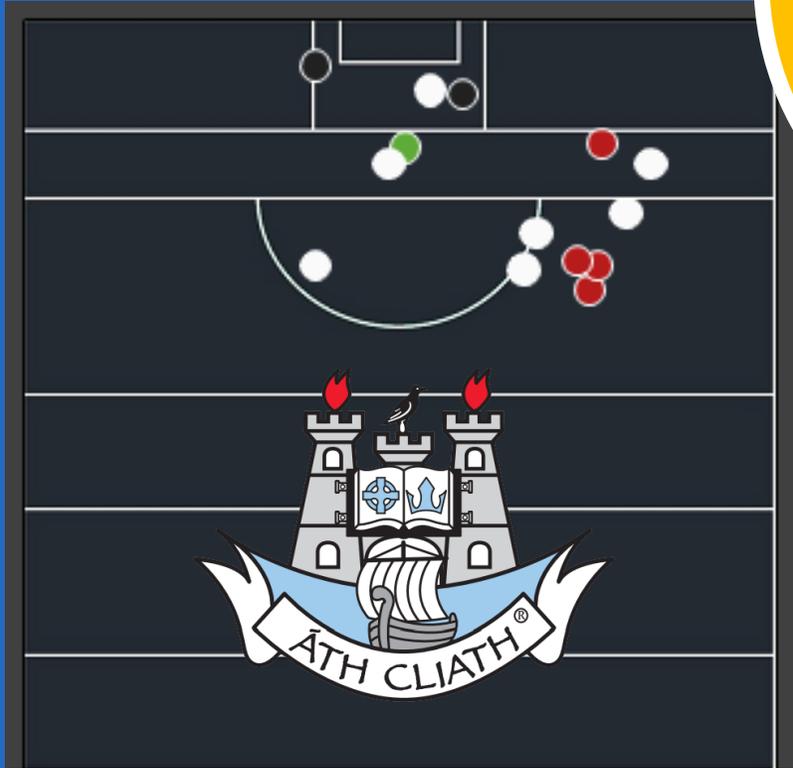
Dublin Kickout	0-00
Kerry Kickout	0-03
Turnover	0-07
Throw In	0-00
	<hr/>
	0-10

2nd Half

Dublin Kickout	0-01
Kerry Kickout	0-02
Turnover	0-02
Throw In	0-00
	<hr/>
	0-05

2nd Half

Why?



← THIS WAY

THAT WAY →





KILKENNY

VS

TIPPERARY

2019 All Ireland Hurling Final



What does good look like? Hurling

Averages for performance indicators of winning (n = 27) versus losing teams (n = 27) in the 2015 Hurling Championship

	Winners	Losers
Shots	38	30
Scoring Efficiency	62%	58%
Shots (Play)	29	21
Scoring Efficiency (play)	57%	51%
Shots (Deadballs)	9	9
Scoring Efficiency (Deadballs)	73%	76%

Pass < 2

42% shot conversion

Pass 3-6

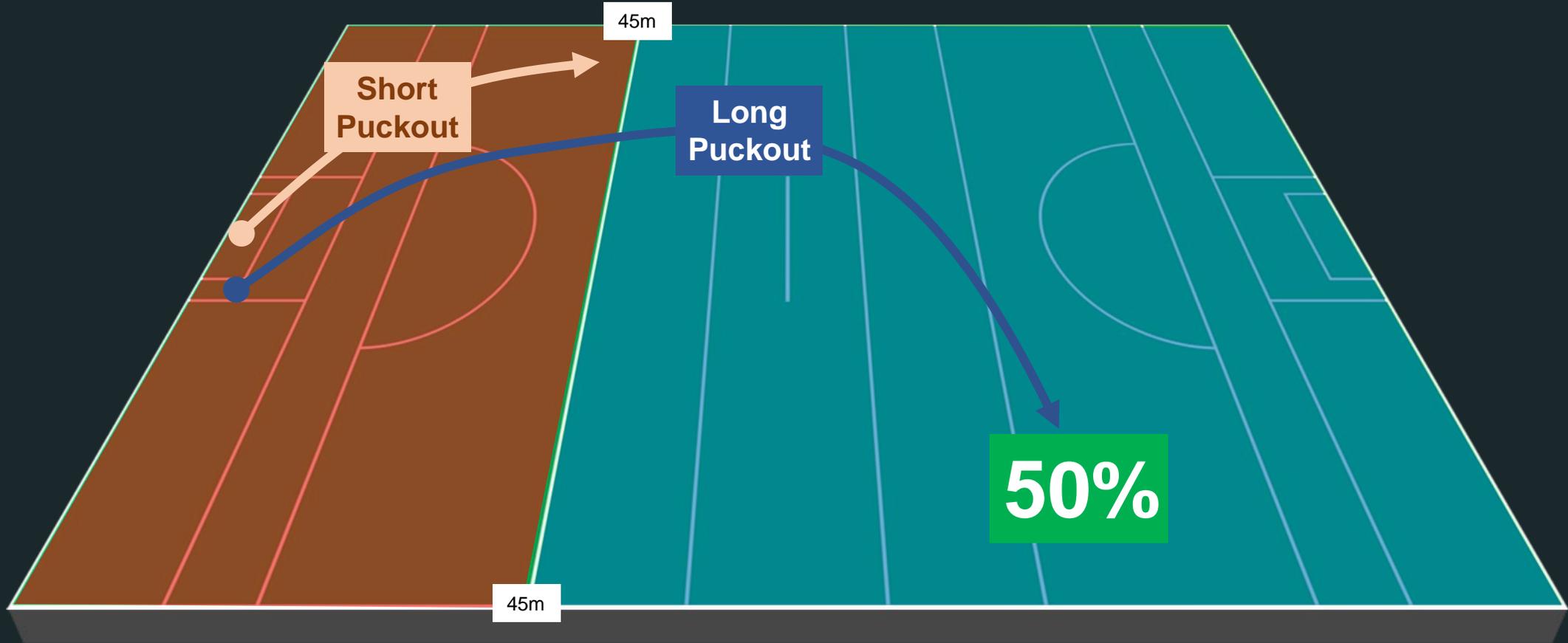
50% shot conversion

What we know – Hurling

Averages for performance indicators of winning (n = 21) versus losing teams (n = 21) in the 2019 Hurling Championship

	Winners	Losers
Productivity	4.1	3.2
Turnover Rate	49%	59%

Direction of Play



Short Puckout

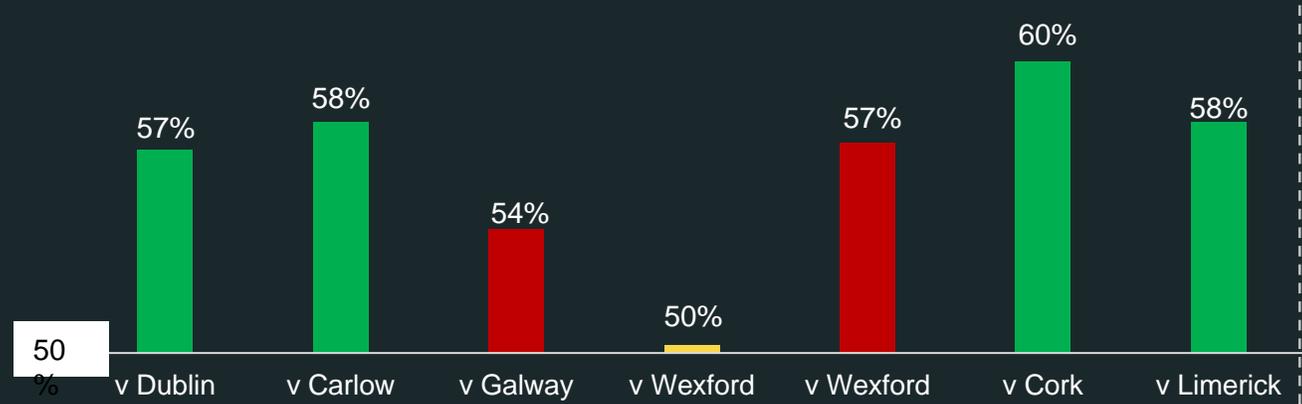
Long Puckout

50%

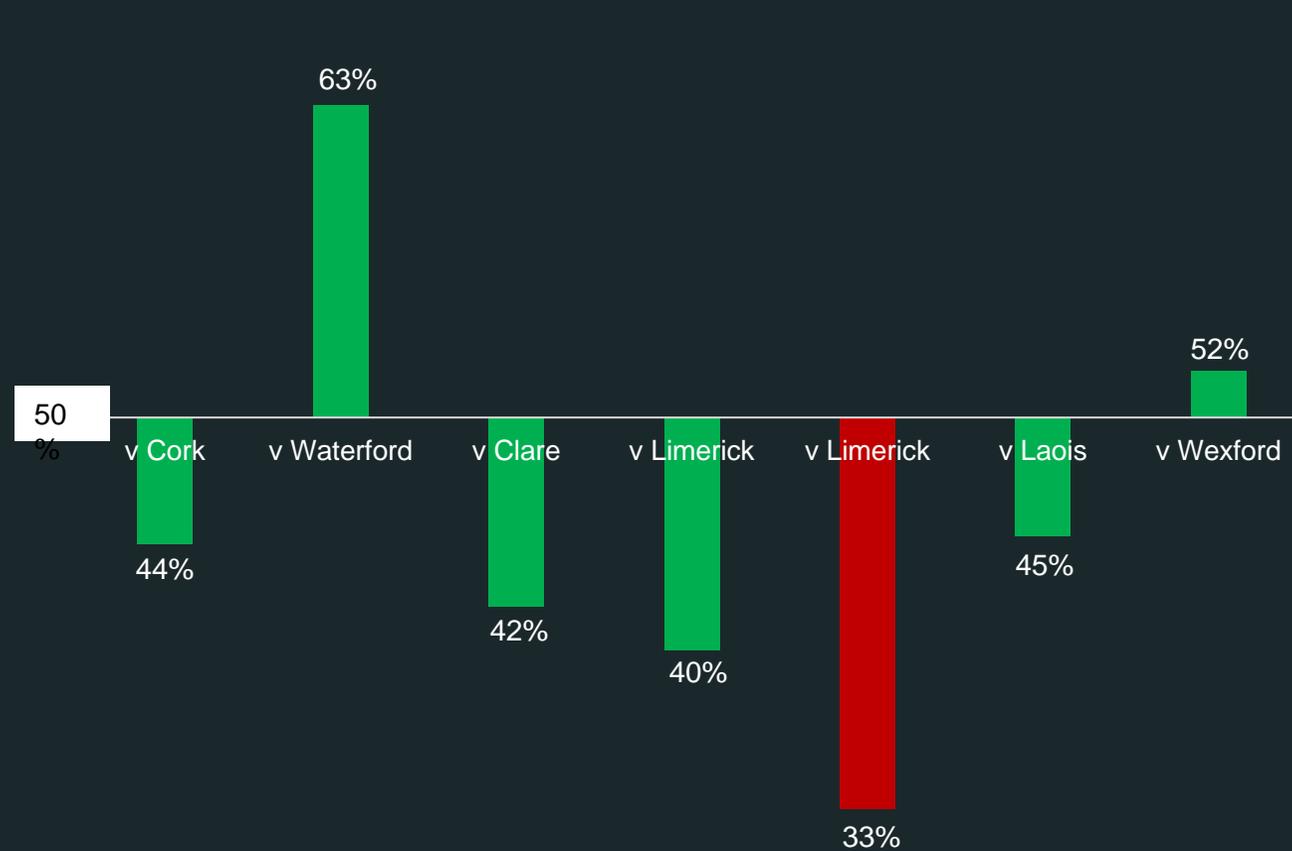
45m

45m

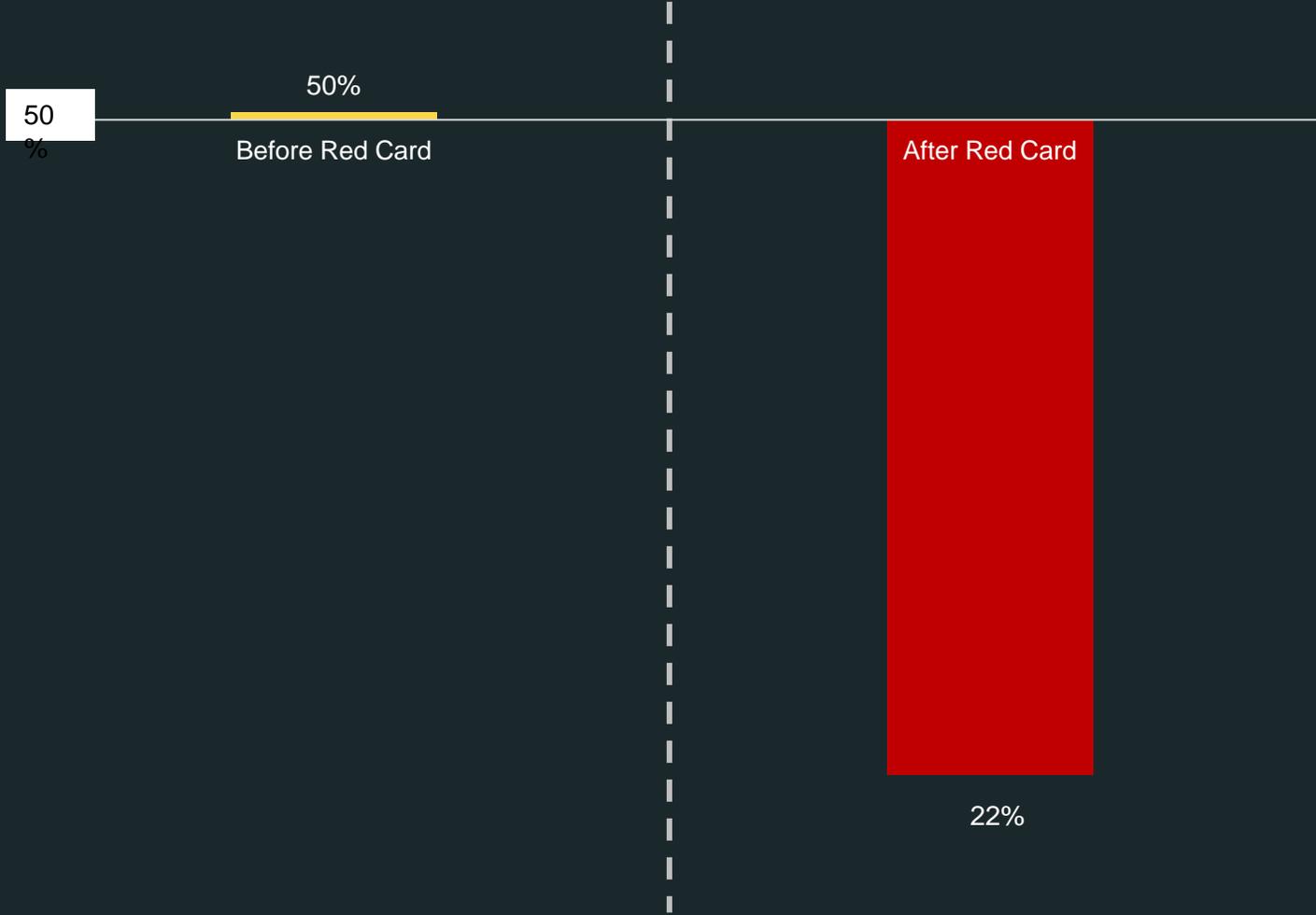
% of Long Puckouts Kilkenny retained in relation to 2019 Game Data



% of Long Puckouts Tipperary retained in relation to 2019 Game Data



% of Long Puckouts Kilkenny retained before and after the Red Card (32.48)





Tipperary Source of Scores (3-25)

1st Half

Tipperary Puckout	0-03
Kilkenny Puckout	1-02
Turnover	0-04
	<hr/>
	1-09

Kilkenny Productivity	3.8
Kilkenny Turnover Rate	48%
Tipperary Productivity	3.9

2nd Half

Tipperary Puckout	0-03
Kilkenny Puckout	1-06
Turnover	1-07
	<hr/>
	2-16

Kilkenny Productivity	2.3
Kilkenny Turnover Rate	73%
Tipperary Productivity	4.0



Kilkenny Source of Scores (0-20)

1st Half

Tipperary Puckout	0-01
Kilkenny Puckout	0-02
Turnover	0-07
Throw In	0-01
	<hr/>
	0-11

37 (29%)

2nd Half

Tipperary Puckout	0-01
Kilkenny Puckout	0-00
Turnover	0-07
Throw In	0-01
	<hr/>
	0-09

1-06 v Limerick
(61%)

Context

Red Card



Half Time Score

KIL 0-11

TIP 1-09

2nd Half – 3rd Quarter

35.00 – 55.00 mins

Kilkenny Possessions

22

36%

Kilkenny Shots

8

75%

Kilkenny Scores

6

73%

16

Turnovers

1-05

Team Meetings
Training
Coaching

PREPARE

**HOW DO
YOU WANT
THE GAME
TO BE
PLAYED?**

ADJUST

PERFORM

EVALUATE

Matches

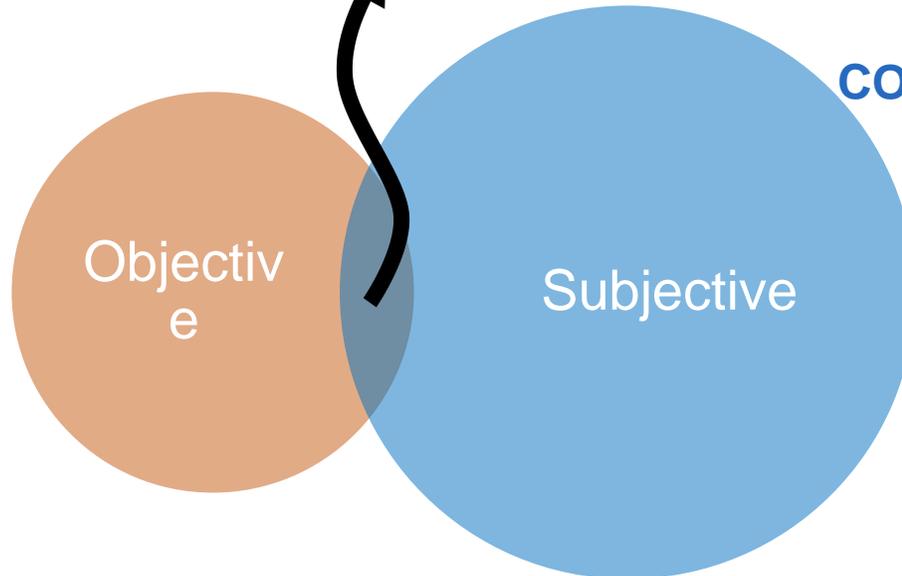


Gaelic Games are complex sports.

Stats will **NOT** give you a definitive viewpoint



DATA & ANALYSIS



COACHING & PLAYING KNOWLEDGE
EXPERIENCE
CONTEXT
COACHES EYE

Analysts - Stats don't measure everything, and that's OK!

Analysts – Move beyond the technology

What does your role look like?

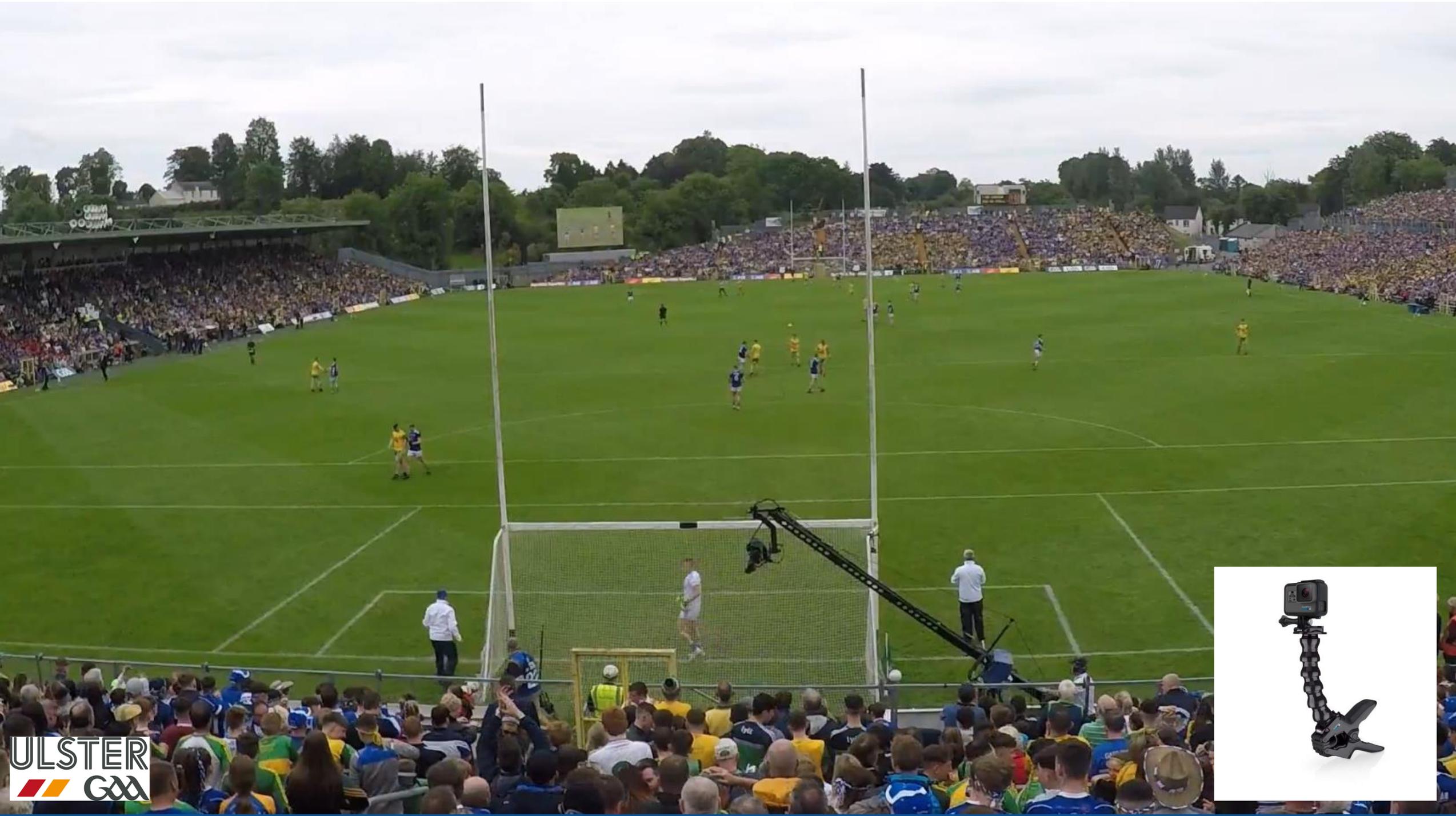
Coaches - Are you asking good enough questions

- Be careful what you ask for - PA is very time consuming!
- Understand the demands!
- **Does it make the boat go faster?**



Principles of Play





ULSTER
GAA



Questions?



References

- Allister, A, Byrne, P. J, Nulty, C. D, & Jordan, S. (2018). Game-related statistics which discriminate elite senior gaelic football teams according to game outcome and final score difference. *International Journal Of Performance Analysis* , 18(4), 622–632. <https://doi.10.1080/24748668.2018.1501992>
- Bradley, J., & O'Donoghue, P. (2011). Counterattacks in elite Gaelic football competition. *International Journal of Performance Analysis in Sport*, 11(1), 159–170. <https://doi.org/10.1080/24748668.2011.11868537>
- Carroll, R. (2013). Team performance indicators in Gaelic football and opposition effects. *International Journal of Performance Analysis in Sport*, 13(3), 703–715. <https://doi.org/10.1080/24748668.2013.11868682>
- Clear, C., Hughes, M., & Martin, D. (2017). Attacking profiles in elite hurling. *International Journal of Performance Analysis in Sport*, 17(3), 319–333. <https://doi.org/10.1080/24748668.2017.1338074>
- Gamble, D., Bradley, J., McCarren, A., & Moyna, N. M. (2019). Team performance indicators which differentiate between winning and losing in elite Gaelic football. *International Journal of Performance Analysis in Sport*, 19(4), 478–490. <https://doi.org/10.1080/24748668.2019.1621674>
- Mangan, S., Ryan, M., Devenney, S., Shovlin, A., McGahan, J., Malone, S., & Collins, K. (2017). The relationship between technical performance indicators and running performance in elite Gaelic football. *International Journal of Performance Analysis in Sport*, 17(5), 706–720. <https://doi.org/10.1080/24748668.2017.1387409>
- Mangan, S., Collins, K. D., Burns, C., & O'Neill, C. (2019). The positional technical and running performance of sub-elite Gaelic football, *Science and Medicine in Football*, 1–10. <https://doi.org/10.1080/24733938.2019.1679872>
- McGuckin, B., Bradley, J., Hughes, M., O'Donoghue, P., & Martin, D. (2020) Determinants of successful possession in elite Gaelic football, *International Journal of Performance Analysis in Sport*, DOI: [10.1080/24748668.2020.1758433](https://doi.org/10.1080/24748668.2020.1758433)
- McGuigan, K., Hughes, M., & Martin, D. (2018). Performance indicators in club level Gaelic football. *International Journal of Performance Analysis in Sport*, 18(5), 780–795. <https://doi.org/10.1080/24748668.2018.1517291>

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- https://aclz.org/wp-content/uploads/2017/03/starting-point-logo-png_orig.png
- <https://www.independent.ie/sport/gaelic-games/gaelic-football/pat-spillane-new-era-of-attacking-play-leaves-gaelic-football-in-a-good-place-38568038.html#>
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