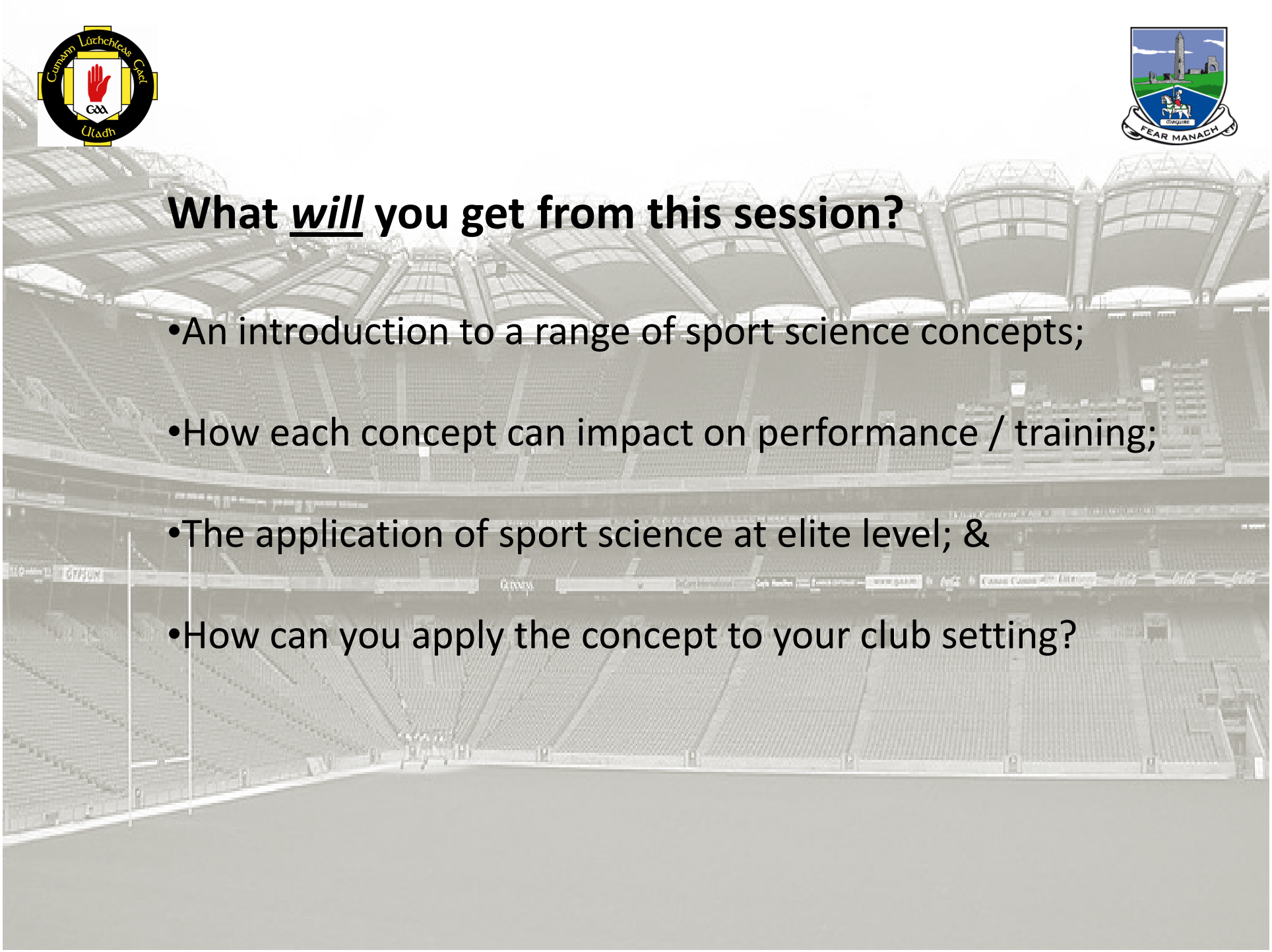
Fermanagh Club Mentoring 2013:

"Sport Science in YOUR CLUB"

Delivered by Kevin McGuigan, Sport Scientist, Ulster GAA

Follow me on Twitter*: @kevinmcguigan83*



What *will* you get from this session?

- An introduction to a range of sport science concepts;
- How each concept can impact on performance / training;
- The application of sport science at elite level; &
- How can you apply the concept to your club setting?

Fitness Testing

•Who – which players to test: age groups?

•What – components of fitness – last week's session?

•When – time of year – how often?

•Where – location / venue?

•Why – purpose, long term / short term?

•How – the protocol for testing?

Resource:

http://www.ulstergaa.ie/wp-content/uploads/coaching/articles/general/Fitness-Test-Procedures-May-2012.pdf

Fitness Testing:

The ongoing measurement tool?

By testing club players regularly, 2/3 times per year, we can begin to establish a database within the club, with the following uses;

- Is training serving it's purpose – are individuals getting fitter – short term?
- How are **individuals** progressing on an annual basis – long term?
- The club can develop 'normative data' for each age group;
- Identify aspects of fitness that need prioritised for the incoming year;
- Is the **club** progressing on an annual basis, in terms of fitness - long term?
- Reference points for players to aim at to progress to the next level;
- Individual and team goal setting from the point of view of fitness;
- A tool to monitor adherence to personal training plans;
- **Any others?**

Heart Rate Monitoring

•What is **heart rate**?

•The body's **'rev counter'**. A measurement of how hard the heart and lungs (CV System) are working to power the body.

•Match data has shown that at senior level a player's heart rate will ***average 80-90%*** of their maximum over the course of a game (dependent on position);

•This equates to 160 – 180 beats per minute – *on average*;

•A total of between 9600 – 10800 beats over a 60 minute game;

•How is heart rate analysis applied at elite level?

•How can we apply it within our club?

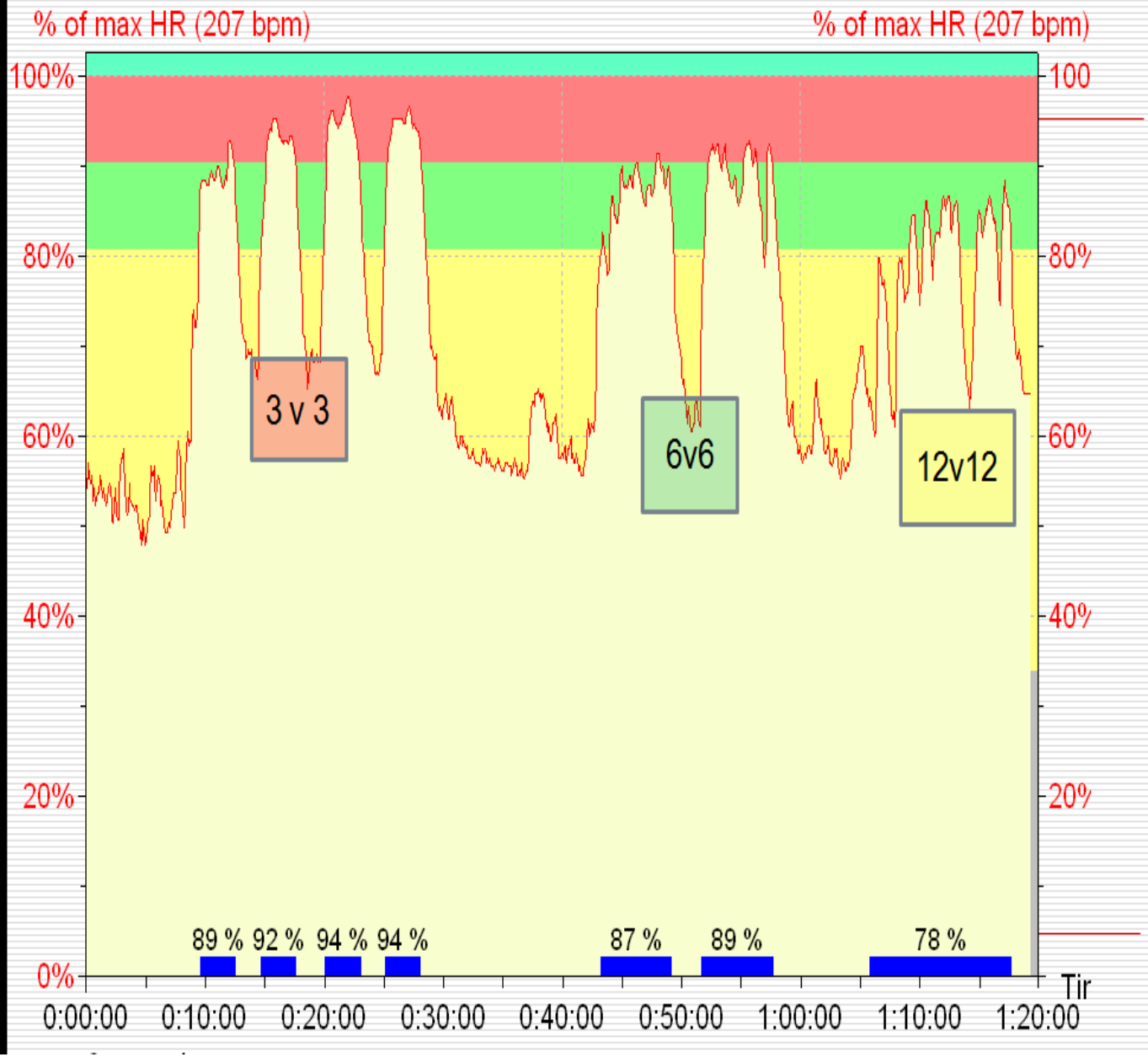
Heart Rate Monitoring

•How can a knowledge of *game based heart rate requirements* impact our club training?

- •Matching training intensity to game based intensity;
- •Skill execution at high intensity;
- •Decision making at high intensity;
- •Maintaining high intensity;
- •There are exceptions to 'high intensity' training;
  - •When?

FUNDAMENTALS. (Step 1& 2) What are we looking to do?

- Make it fun. ← Playing Games?
- Make it active. ← Playing Games?
- Develop Skills!! ← Playing Games?


% of max HR (207 bpm)
% of max HR (207 bpm)
100%
80%
60%
40%
20%
0%
100
80%
60%
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20%
3 v 3
6v6
12v12
89 %
92 %
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94 %
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HR Analysis: Resources

- Ulster GAA Website / Coaching / Articles;
- Coaching Conferences listed down the left of the page;

- Resource 1: Developing High Intensity Hurling (Ulster GAA Conference 2010)
- http://ulster.gaa.ie/coaching/articles/coaching-conference-2010/

- Resource 2: Developing High Intensity Football (Ulster GAA Conference 2011);
- http://ulster.gaa.ie/coaching/articles/coaching-conference-2011/

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ulster.gaa.ie

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Official Website of the Ulster Council GAA

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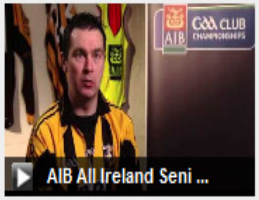
LIVE TO PLAY A mistake on the pitch might cost you the game. A mistake on the road can cost you your life.


Loughgiel Shamrocks ...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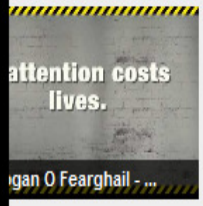
GAA t...


...attention costs lives.
...gan O Fearghail - ...


Joe Kernan (Armagh) ...


Ulster Hurling Team Named

Ulster Hurling Manager Gregory O'Kane has named his team for Sunday's Inter-Pro Semi Final v Munster

Scór na nÓg All-Irel...

Tender for GAA Equ...

Mixed Inter-Pro res...

Ulster Handball Fina...

Ulster Hurling Team...

THE IRISH NEWS WORKPLACE & EMPLOYMENT AWARDS 2012 WINNER

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GLENAVON House Hotel

ulster.gaa.ie/coaching/articles/

This Week's Fixtures

12:32
20/02/2013

GPS Analysis

- **What is GPS Analysis?**
- **Demonstration of software;**
- **What can it measure;**
  - Distance (Totals, Intervals, Per Minute);
  - Speed (Walk, Jog, ½ Pace, ¾ Pace, Sprint);
  - Speed Thresholds (Distance, Time, Percentages);
  - Accelerations / Decelerations (What does this mean?);
  - Linked Heart Rate Analysis (Why is this important?)
  - Direction (Angles / Curves / Directional Changes)
- **How is it used at elite level?**
- **How can it be applied at club level?**

GPS Analysis

- **How can a *knowledge of GPS Analysis* impact our club training?**
  - Realistically, practical application can impact very little;
  - However, it is important to stay up to date and pay attention to findings from work at elite level;
  - In particular, distances covered, positional differences identified, relationships between various parameters and relative success;

Example of a notable finding;

During a warm up with my senior club team last year, I covered adistance of 1549m. 1175m of this distance was at a jog pace, or below, with 263 in the ½ pace zone, 111m at ¾ pace, and no recorded sprint distance.

Discuss

Kevin McGuigan 5138 201205181826-000.pdf - Adobe Reader

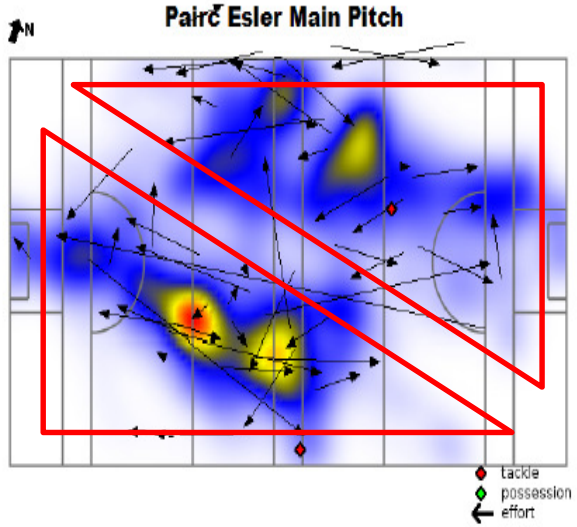
File Edit View Window Help

Player Name	Kevin McGuigan
Date	18May2012
Description	Match v Warrenpoint

catapult

Summary

Period:	Warm Up			1st Half			2nd Half			Session		
Start Time: (h:m:s)			18:59:41			19:36:12			20:22:45			18:59:41
Duration: (m:s)			0:17:42			0:32:36			0:32:46			1:23:04
Distance: (m)			1549			3876			3614			9039
Meterage: (m/min)			87.5			118.9			110.3			108.8
Player Load:			133			321			313			767
HR:[Min | Mean | Max]	0	0	0	0	0	0	0	0	0	0	0	0
Efforts over 8.48/11.18/15.66 mph:	22	9	0	43	23	1	33	20	5	98	52	6
Acc. > -1.99/2/4 m/s²:	198	98	34	369	168	49	354	171	64	921	437	147
Rest Time: (m:s)			2:02.7			2:06.2			1:03.6			5:12.6
Max. Vel: (mph)			13.2			16.8			16.8			16.8
Work:Rest Ratio:			0.09			0.15			0.12			0.13
HR Exertion Index			0.00			0.00			0.00			0.00



12:08
20/02/2013

Bands

Vel. Band		Walk	Jog	1/2 Pace	3/4 Pace	Sprint
Dist. (Est.)	m	2833	3717	1433	959	97
	%	31	41	16	11	1
Time	s	52:59.6	21:30.0	5:32.6	2:48.0	0:13.2
	%	64	26	7	3	0

Effort Length/Duration

Efforts	#	0		230		98		52		6	
Average	m|s	0	0	16	6	15	3	18	3	16	2
Min	m|s	0	0	0	1	1	1	2	1	6	1
Max	m|s	0	0	69	24	58	13	71	13	23	3
0-5 m	#	0		43		17		3		0	
5-10 m	#	0		54		25		10		1	
10-40 m	#	0		121		52		35		5	
40+ m	#	0		12		4		4		0	

Start Accel.

0-1 m/s²	#	0	52	30	13	3
1-2 m/s²	#	0	55	29	13	2
2-4 m/s²	#	0	72	26	18	0
4+ m/s²	#	0	44	9	8	1

Recovery Times	0-0.5 mins	#	221	221	62	17	0
	0.5-1 mins	#	17	17	25	9	0
	1-2 mins	#	7	7	15	12	1
	2-5 mins	#	2	2	6	11	2
	5+ mins	#	2	2	2	3	2

Heart Rate	Heart Band	
	Time	s
		%
	Mean	b/m

Accel. Bands	Acc. Band		-12--4 m/s²	-3.99--2 m/s²	-1.99-1.99 m/s²	2-3.99 m/s²	4-12 m/s²
	Dist. (Est.)	m	41	168	8021	242	61
		%	0	2	94	3	1
	Time	s	0:25.0	1:08.2	1:19:13.6	1:42.2	0:30.8
		%	1	1	95	2	1
	Efforts	#	105	293	921	437	147

Tackles	Intensity Band		0-2	2-4	4-6	6-8	8-10	10-12	12-20
	Count		0	2	0	0	0	0	0
	Avg. Duration	(s)	0.0	1.2	0.0	0.0	0.0	0.0	0.0

RHIE	Total Bouts		0		
	Efforts per Bout		0	0.0	0
	Effort Duration	s	0.0	0.0	0.0
	Effort Recovery	s	0.0	0.0	0.0
	Bout Recovery	s	0.0	0.0	0.0

Player Load	P.L. Band		0-1.2	1.21-2.5	2.51-3.5	3.51-4	4.01-4.5	4.51-5.5
	Time	s	1:08:30.4	12:59.7	0:55.2	0:07.6	0:04.0	0:02.0
		%	82	16	1	0	0	0
	Mean		0.10	0.39	0.73	0.96	1.18	1.57

GPS Analysis

- **Discuss the selection of figures displayed, and use the copy provided to outline 2 ways this information could influence your club training.**

- **Questions on GPS**

Statistics

- **Numbers;**
- **Figures;**
- **Facts.**

- Do we regularly employ statistics to ***measure performance***? **NO**

- Is it possible to ***track improvement / deterioration*** in both individual and team performance through ongoing statistical analysis? **YES**

- Can we identify ***strengths / areas for improvement*** in our own squad through statistics? **YES**

Statistics: Tips

- **Level of use depends on support available;**
- **Try to utilise people within the club (students, underage mentors etc);**

- Use pre season challenge games to gather as many statistics as possible;
    1. **Team Performance** (Breakdown of turnovers, shooting, defensive play, passing etc);
    2. **Individual Performance** (Handling success, passing, shooting etc);
- Identify the **strengths / weaknesses** of the team;
    - Set targets for next games;
- Identify one **strength / weakness** for each player;
    - Set an individual target for each player for next game.
- Review **targets achieved / missed** going forward;

- **Display graphs / stats in the changing room for players to feel they are responsible for delivering positive trends**

Statistics: Tips

- With regular collection of similar statistics you should be able to develop a '**performance index**';

- What does '**Performance Index**' mean;
  - A ***single number*** that is provided to a player as a ***measurement of their impact on the match play***. This number should incorporate all the factors of the game that have been measured, with each factor ***weighted*** according to importance perceived by the players / management.

Statistics: The Benefits?

Discuss in Your Groups

Benefits to Players

- Knowing strengths;
- Knowing weaknesses;
- Stimulates competitive instinct;
- Seeing evidence of improvement;
- Evidence to support manager observations;
- Identifying with what is important to performance;
- Understanding training focus;
- Improve focus / concentration on key skills during performance;

Benefits to Management

- Knowing strengths;
- Knowing weaknesses;
- Guide training planning;
- Measure improvements;
- Monitor if an area is beginning to deteriorate;
- Motivation of individuals and team with targets;
- Can back up half time / full time analysis with **FACTS;**
- Introduce intra-squad competition.

Fermanagh Club Mentoring Programme 2013

"Sport Science in YOUR CLUB"

Delivered by Kevin McGuigan, Sport Scientist, Ulster GAA

Follow me on Twitter: @kevinmcguigan83

Email: kevin.mcguigan.ulster@gaa.ie

Phone: 07760779590

Thank You For Listening!