



RWC 2003

STATISTICAL REVIEW
AND MATCH ANALYSIS



RWC2003

STATISTICAL REVIEW AND MATCH ANALYSIS

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RWC 2003

STATISTICAL REVIEW AND MATCH ANALYSIS summary

- the average number of points scored per match was 59 - compared with 60, 54,42 and 58 the previous World Cups
- proportionately more tries and fewer penalties were scored than in all World Cups but the first one
- at the final stages however, penalties exceeded tries by 4 to 1.
- 58% of matches had a points differential of over 20, the highest proportion since the first World Cup.
- there were 10 matches with points margins in excess of 50 which was between two and three times more than in either RWC1999, or RWC95
- drop goals averaged one in every two games which is an identical figure to all previous World Cups
- 81% of matches were won by the team scoring the most tries
- 5 matches were won by the team scoring fewer tries but kicking more penalties. This was 3 more than the four previous World Cups combined
- no team scored more than one try in the semi final and final matches
- only 5 tries have been scored in the last four RWC finals while 21 penalty goals have been kicked.
- 73% of tries were converted and 71% of penalty kicks at goal succeeded
- of the 332 tries, over half came from the set pieces of lineout and scrum and 23% started from within the scoring teams own half
- almost 83% of tries were preceded by 3 or fewer second phases (ie rucks/mauls).

- just over 50% of tries were preceded by 3 or fewer passes
- almost 60% of tries were scored in the second half while just over 60% of penalties were scored in the first half.
- 83% of all passing movements contained 2 passes or less
- ball in play time averaged 42% or 33 minutes17secs, a figure far higher than previous World Cups
- there were on average, 136 rucks/mauls per game – some 35% more than RWC99: there were 241 passes per game, a 20% increase over RWC99. Kicks were the same – 52
- at restarts, the kicking team retained possession on 1 in 5 occasions
- there were an average of 33 lineouts per game, 3 more than RWC99. Just over 60% were contested while possession was retained on 80% of occasions
- there were 21 scrums per game, one less than RWC99. One in 7 scrums collapsed, while possession was retained on 91% of occasions
- in the 48 matches, a total of 5 free kicks for a crooked scrum feed were awarded
- on average, there were 24 penalties per game, a noticeable reduction from the 29 in RWC99
- penalties for ground offences at ruck and tackle accounted for 46% of all penalties
- both northern and southern hemisphere referees averaged the same number of penalties per game – 24
- there were no red cards issued while 28 yellow cards were issued in the 48 games
- the incidence of scoring during the sin bin period was less than in the rest of the game; in over 50% of cases the team with 15 players obtained no points benefit, with the average points benefit between 1 and 2 points
- there were only 18 penalties awarded for foul play – a rate of one every three matches

- in the 48 matches, substitutions averaged between 10 and 11 per game.
- there were 36 references to the Television Match Official, 5 of which took longer than 2 minutes

RUGBY WORLD CUP 2003

RESULTS

FINAL

AUSTRALIA 17 ENGLAND 20

3RD PLACE PLAY-OFF

FRANCE 13 NEW ZEALAND 40

SEMI FINALS

NEW ZEALAND 10 AUSTRALIA 22
ENGLAND 24 FRANCE 7

QUARTER FINALS

NEW ZEALAND 29 SOUTH AFRICA 9
AUSTRALIA 33 SCOTLAND 16
FRANCE 43 IRELAND 21
ENGLAND 28 WALES 17

RWC2003

GROUP STAGE RESULTS

POOL A

	P	W	D	L	F	A	BP	PTS
AUSTRALIA	4	4	0	0	273	33	2	18
IRELAND	4	3	0	1	141	56	3	15
ARGENTINA	4	2	0	2	140	57	3	11
ROMANIA	4	1	0	3	65	192	1	5
NAMIBIA	4	0	0	4	28	310	0	0

10/10	AUSTRALIA	24	ARGENTINA	8
11/10	IRELAND	45	ROMANIA	17
14/10	ARGENTINA	67	NAMIBIA	14
18/10	AUSTRALIA	90	ROMANIA	8
19/10	IRELAND	67	NAMIBIA	7
22/10	AUSTRALIA	50	ROMANIA	3
25/10	AUSTRALIA	142	NAMIBIA	0
26/10	ARGENTINA	15	IRELAND	16
30/10	NAMIBIA	7	ROMANIA	37
01/11	AUSTRALIA	17	IRELAND	16

POOL B

	P	W	D	L	F	A	BP	PTS
FRANCE	4	4	0	0	204	70	4	20
SCOTLAND	4	3	0	1	102	97	2	14
FIJI	4	2	0	2	98	114	2	10
USA	4	1	0	3	86	125	2	6
JAPAN	4	0	0	4	79	163	0	0

11/10	FRANCE	61	FIJI	18
12/10	SCOTLAND	32	JAPAN	11
15/10	FIJI	19	USA	18
18/10	FRANCE	41	JAPAN	13
20/10	SCOTLAND	39	USA	15
23/10	FIJI	41	JAPAN	13
25/10	FRANCE	51	SCOTLAND	9
27/10	JAPAN	26	USA	39
31/10	FRANCE	41	USA	14
01/11	SCOTLAND	22	FIJI	20

GROUP STAGE RESULTS

POOL C

	P	W	D	L	F	A	BP	PTS
ENGLAND	4	4	0	0	255	47	3	19
SOUTH AFRICA	4	3	0	1	184	60	3	15
SAMOA	4	2	0	2	138	117	2	10
URUGUAY	4	1	0	3	56	255	0	4
GEORGIA	4	0	0	4	46	200	0	0

11/10	SOUTH AFRICA	72	URUGUAY	6
12/10	ENGLAND	84	GEORGIA	6
15/10	SAMOA	60	URUGUAY	13
18/10	SOUTH AFRICA	6	ENGLAND	25
19/10	GEORGIA	9	SAMOA	46
24/10	SOUTH AFRICA	46	GEORGIA	19
26/10	ENGLAND	35	SAMOA	22
28/10	GEORGIA	12	URUGUAY	24
01/11	SOUTH AFRICA	60	SAMOA	10
02/11	ENGLAND	111	URUGUAY	13

POOL D

	P	W	D	L	F	A	BP	PTS
NEW ZEALAND	4	4	0	0	282	57	4	20
WALES	4	3	0	1	132	98	2	14
ITALY	4	2	0	2	77	123	0	8
CANADA	4	1	0	3	54	135	1	5
TONGA	4	0	0	4	46	178	1	1

11/10	NEW ZEALAND	70	ITALY	7
12/10	WALES	41	CANADA	10
15/10	ITALY	35	TONGA	12
17/10	NEW ZEALAND	68	CANADA	6
19/10	WALES	27	TONGA	20
21/10	ITALY	19	CANADA	14
24/10	NEW ZEALAND	91	TONGA	7
25/10	ITALY	15	WALES	27
29/10	CANADA	24	TONGA	7
02/11	NEW ZEALAND	53	WALES	37

MOST TRIES

1 NEW ZEALAND	52
2 AUSTRALIA	43
3 ENGLAND	36
4 FRANCE	29

MOST POINTS

NEW ZEALAND	361
AUSTRALIA	345
ENGLAND	327
FRANCE	267

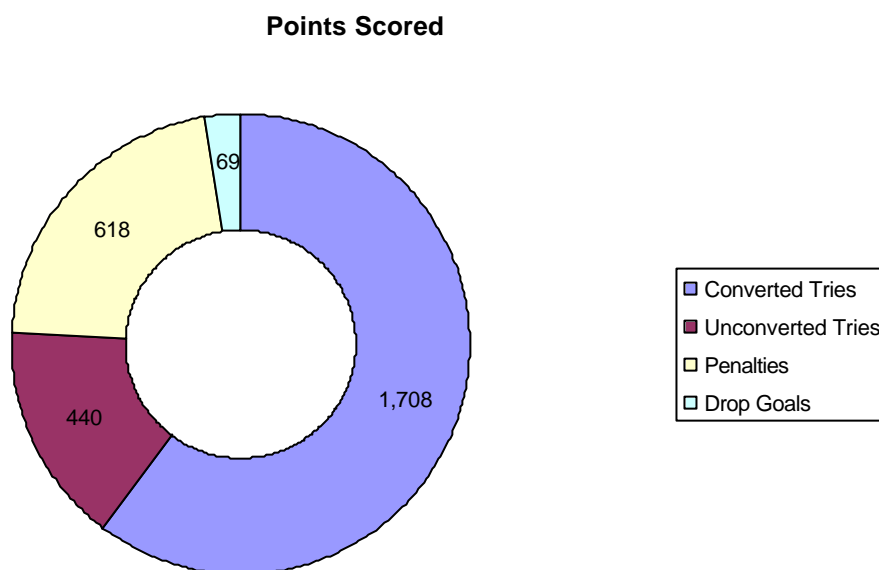
LEADING POINTS SCORERS

1 J WILKINSON (E)	113
2 F MICHALAK (F)	103
3 E FLATLEY (A)	100
4 L MCDONALD (NZ)	75
5 C PATERSON (S)	71
6 M ROGERS (A)	57
7 M HERCUS (USA)	51
8 R WAKARUA (I)	50
9 E VA'A (Sam)	49
10 D CARTER (NZ)	48

RUGBY WORLD CUP 2003 STATISTICAL REVIEW AND MATCH ANALYSIS

1 SCORING PROFILES

- i There were 2835 points scored in the 48 matches. They were made up as follows:



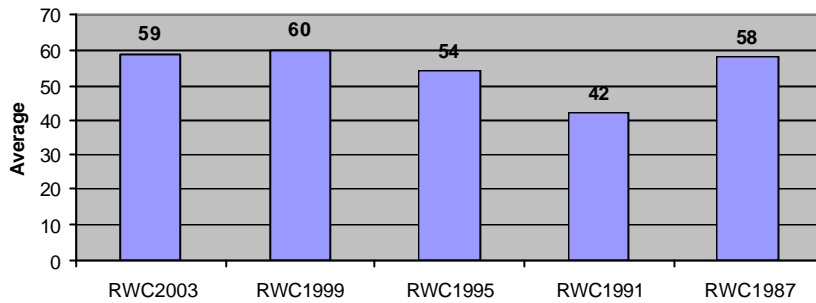
244 converted tries	1,708
88 unconverted tries	440
206 penalties	618
23 drop goals	<u>69</u>
	<u>2,835pts</u>

- ii The average number of points per game was **59**.

This is just one point less than RWC99. The following table and chart give the comparative figures for all World Cups to date after making an adjustment for the change in value of the try after RWC91:

RWC2003	59
RWC1999	60
RWC1995	54
RWC1991	42
RWC1987	58

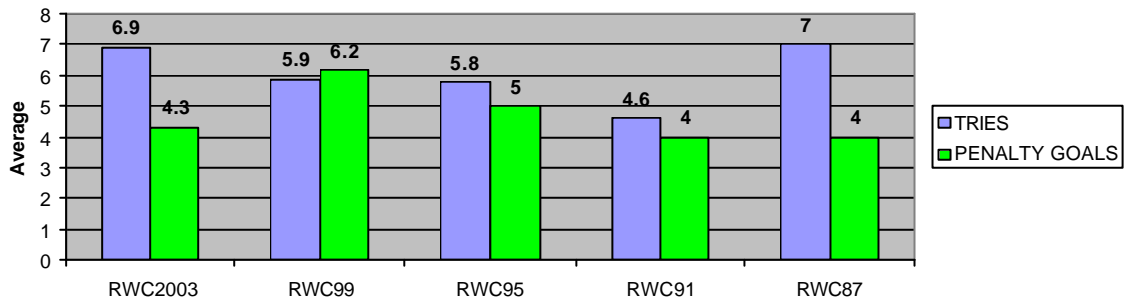
Average Points per Match



iii There were however, proportionally more tries and fewer penalty goals scored in RWC2003 than in all but one of the previous four tournaments. The following table and chart shows the comparative figures for all 5 RWCs to date:

	average per match		
	TRIES	PENALTY GOALS	try:pen ratio
RWC2003	6.9	4.3	1.6 :1.0
RWC99	5.9	6.2	0.9 :1.0
RWC95	5.8	5.0	1.2 :1.0
RWC91	4.6	4.0	1.2 :1.0
RWC87	7.0	4.0	1.8 :1.0

Average Scores per Match

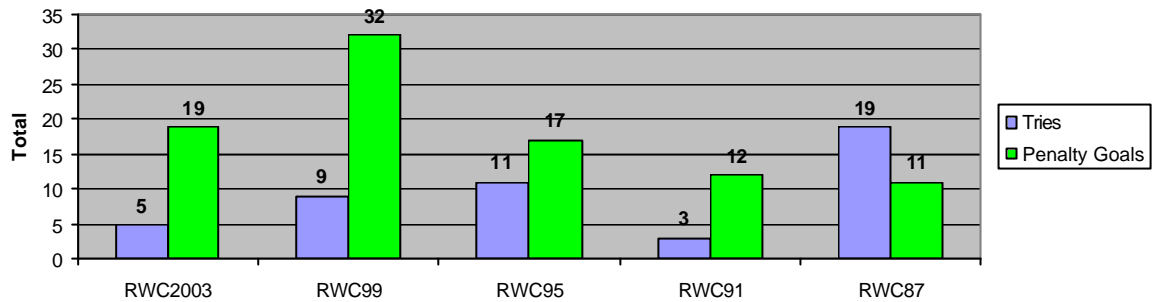


iv The above figures reflect all results in each tournament. There are however matches with points differences of over 100 which can result in a certain degree of distortion.

Because of this, matches played at the semi final and final stage were extracted to see if the ratio of tries to penalty goals at the most competitive stages of each tournament had shown any noticeable change. This is shown in the following table and chart - it shows the total number of tries and penalty goals scored in such matches.

	semi finals and final	
	<u>total tries</u>	<u>total penalty goals</u>
RWC2003	5	19
RWC99	9	32
RWC95	11	17
RWC91	3	12
RWC87	19	11

Semi Final and Final Scores



What the chart shows is that in 3 of the last 4 tournaments, penalty goals have consistently outnumbered tries by around 4 to 1 at the semi-final and final stage.

- v Another illustration of the changing balance between tries and penalty goals as tournaments progress, is illustrated further if the results in RWC2003 are divided into 3 groups:

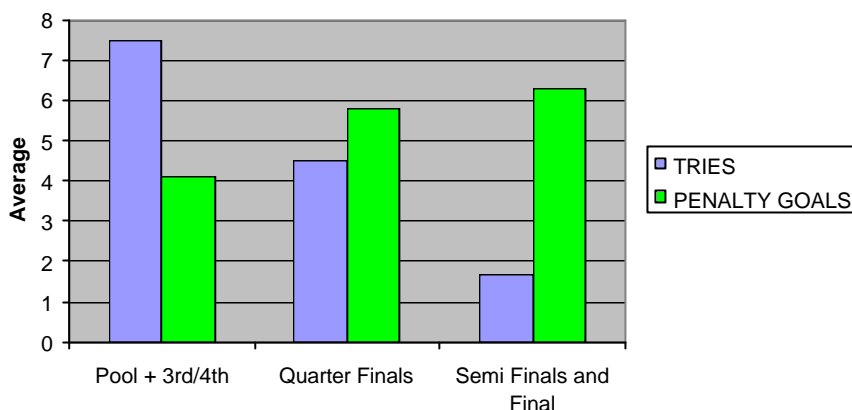
- 1 pool matches plus 3rd 4th place match
- 2 quarter finals
- 3 semi final and final

The following table shows how the relationship between tries and penalty goals changed dramatically as the tournament proceeded:

Average per game	Pool + 3 rd /4 th	quarter finals	semi finals+final
TRIES	7.5	4.5	1.7
PENALTY GOALS	4.1	5.8	6.3

The above figures are also shown in the following chart in order to emphasise the extent to which penalty goals become an increasing and significant element in the scoring mix as the tournament proceeded.

Average Scores per Game



- vi Such a change in the try/penalty mix is not altogether surprising when there are matches at the pool level when 20 or so tries can be scored by one team. Further, the indications are that the extent of points differences between teams has increased each tournament since 1991:

in RWC2003 58% of matches had a points difference of over 20
 in RWC99 51% of matches had a points difference of over 20
 in RWC95 47% of matches had a points difference of over 20
 in RWC91 43% of matches had a points difference of over 20
 in RWC87 59% of matches had a points difference of over 20

In addition, in 2003, there were 10 matches with points margins in excess of 50 points. This was between two and three times more than RWC99 and RWC95.

- iv As for drop goals, despite their occasional crucial impact at critical stages of a game, they remain relatively few and far between:

In RWC2003, there were, on average, 0.5 per game
 In RWC1999, there were, on average, 0.5 per game
 In RWC1995, there were, on average, 0.5 per game
 In RWC1991, there were, on average, 0.5 per game
 In RWC1987, there were, on average, 0.5 per game

The above figures are not a misprint – the averages have not changed since the first RWC in 1987.

2 IMPACT OF THE PENALTY GOAL ON MATCH RESULTS

Previous paragraphs have shown that as a tournament progresses, penalty goals increase while tries decrease.

Nevertheless, in general, it is tries that win matches.

In RWC 2003, the winning team scored the most tries in 81% of matches. This has always been the case as shown below:

Matches won by team scoring most tries

RWC2003	81%
RWC1999	95%
RWC1995	78%
RWC1991	84%
RWC1987	88%

In summary, of the 185 RWC matches played to date, 158 (or 85%) were won by the team scoring the most tries and **only 7 were won by the team that scored the fewer tries but kicked more penalties.**

However, 5 of the 7 occurred in RWC2003. Three occurred at the Pool stage – Fiji v USA, Wales v Tonga, Scotland v Fiji – and 2 at the knock out stages – England v Wales, England v France.

It goes without saying therefore that kicking remains important, especially in competitive close games. In RWC2003, 75% of the points scored in the semi finals and finals came from kicks – whether conversions, penalties or drop goals.

This paucity of tries is further reflected in the fact that **no team scored more than one try in the semi final and final matches.**

The importance of kicking is underscored further by looking at the 4 most competitive matches played by the 4 quarter finalists. The objective was to establish what percentage of points were the result of tries and what percentage the result of kicks.

The matches examined were the final, semi-final, 3rd/4th playoff, quarter finals and pool matches against the team that came second. This gave 4 matches to each team.

The results were as follows:

a percentage of points from tries

England	15%
Australia	34%
France	48%
New Zealand	68%

b percentage of points from kicks

New Zealand	32%
France	52%
Australia	66%
England	85%

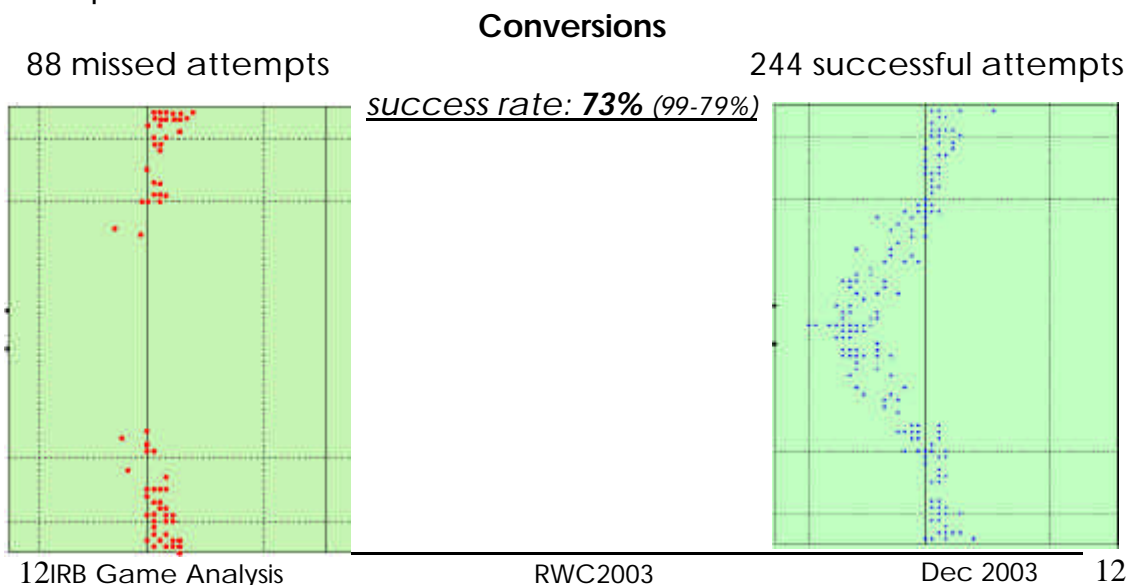
One final piece of data to emphasise the importance of kicks – **only 5 tries have been scored in total in the last 4 Rugby World Cup finals while 21 penalty goals have been kicked.**

3 KICKING

It has been noted in earlier reports that the success rates of kicks at goal have improved noticeably since the game went professional.

In the 5 decades since 1946, conversion rates were 50%, 61%, 55%, 54% and 47% which reflected a running average of 52/53%. These figures are now exceeded comfortably in all major rugby competitions with RWC99 showing a conversion success rate of almost 80%. This level of success was not quite maintained however in RWC2003 where **73%** was achieved.

The following charts show the location on the pitch of all kicks at goal in the competition, both successes and failures for conversions and penalties.

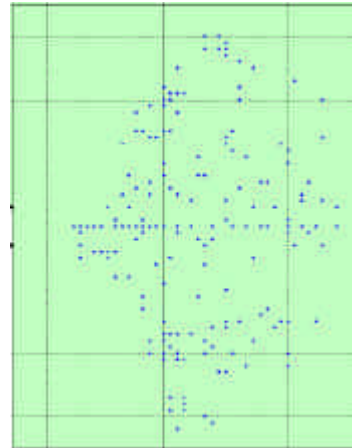
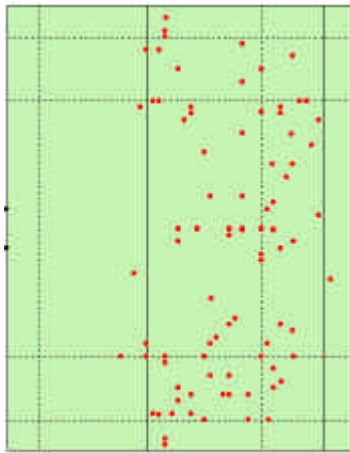


Penalties

83 missed attempts

206 successful attempts

success rate: 71%



kicking success rates from various parts of pitch

In the following chart, the success and failure rate of both conversions and penalties have been combined in order to determine success rates from various parts of the pitch. (an appropriate adjustment has been made for left-footed kickers)

If the various areas are grouped into 3 - ie. in front, right side and left side, the success rates are:

In front	90%
Right side	61%
Left side	61%

Overall therefore, the degree of difficulty of a kick is not affected by the side of the post from which the kick is taken.

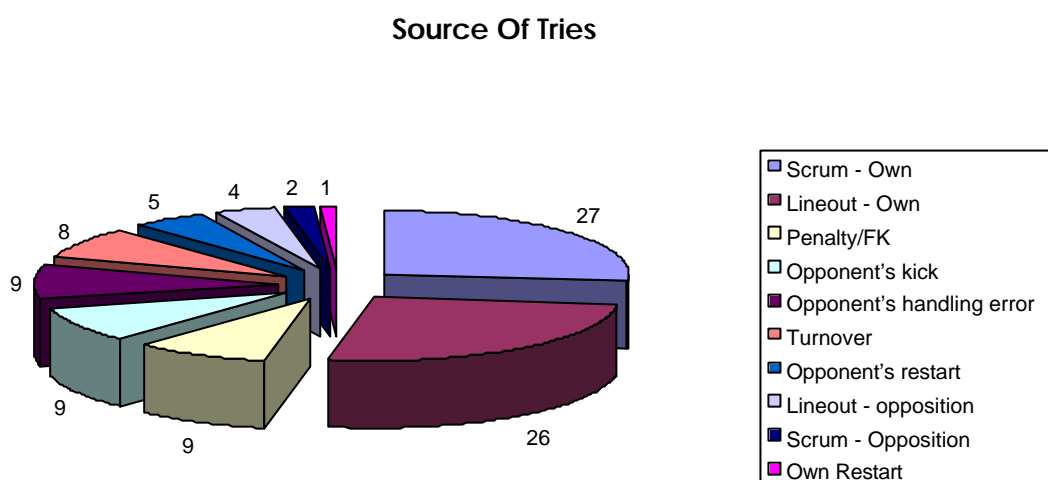
	Z1 21/25 84%	Z5 40/40 100%	Z14 2/4 50%		
		Z6 14/20 70%	Z7 4/8 50%	Z15 2/7 29%	
	Z2 154/157 99%	Z8 29/32 91%	Z9 15/20 75%	Z16 16/30 53%	Z19 0/2 0%
		Z10 17/20 85%	Z11 8/13 62%	Z17 2/6 33%	
	Z3 25/28 89%	Z12 48/81 59%	Z18 2/10 20%		
		Z13 30/58 52%			

4 TRIES

i source of tries

There were **332 tries** scored in RWC2003.

The teams scoring the tries obtained possession of the ball prior to the scoring of the try from a variety of sources. This is shown in the following chart and table:



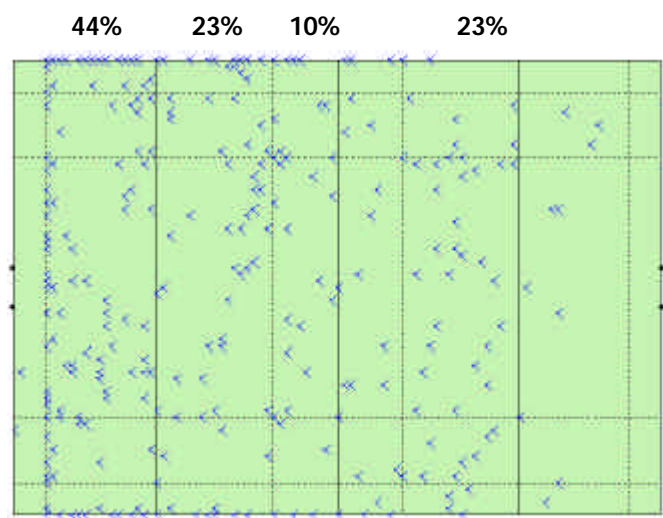
<u>Possession source</u>	<u>%</u>
Scrum - own	27
Lineout - own	26
Penalty/FK	9
Opposition kick	9
Opposition handling error	9
Turnover	8
Opposition restart	5
Lineout - opposition	4
Scrum - opposition	2
Own restart	1
	<u>100%</u>

At first glance, the above breakdown would suggest that there had been a noticeable shift away from the norm. This is because previous analyses of matches played at international level, over several years, have shown that the most fruitful source of possession has consistently and clearly been the lineout.

In RWC 2003, however, the position looked to have changed – the scrum became the most common possession source of tries. The results however were distorted by 3 matches with extremely large points differences. One quarter of all scrum tries came just from these 3 matches. If these matches are excluded from the total of 48, the position changes – lineout possession would then have accounted for 28% of tries while scrum possession would have accounted for 23%, figures in line with expectations and previous analyses.

ii origin of tries

Tries originate from various parts of the pitch. The following chart shows where the attacking team obtained the possession from which they eventually scored.



This shows that:

- 146 or **44%** originated within the 22 metre line
- 77 or **23%** between the 22 and 10 metre line
- 34 or **10%** between 10 metres and halfway
- 75 or **23%** originated in the scoring team's half

The above figures indicate that 1 in 4 of all tries started from within the scoring team's own half. Here again however, the figures are slightly distorted by two matches with high points differentials. If these are excluded then the ratio moves closer to 1 in 5.

iii build-up to tries

Possession of the ball that leads to tries is obtained from a number of sources – and they are listed above. More often than not, other actions – second phase, kicks and passes – then take place before the try is scored.

The first table below shows the number of **rucks and mauls (2nd phase)** that preceded each of the 332 tries

<u>No of 2nd phases</u>	<u>frequency</u>
None	109
1	90
2	49
3	28
4	23
5	10
6-12	<u>13</u>
	<u>332</u>

The table shows that 83% of tries were preceded by 3 or fewer second phases.

The next table shows the total number of **passes** that preceded each of the 322 tries.

<u>No of passes</u>	<u>frequency</u>
None	62
1	28
2	36
3	50
4	34
5	30
6	28
7	11
8	13
9	9
10	7
11 - 19	<u>24</u>
	<u>332</u>

The table shows that just over 50% of tries were preceded by 3 or fewer passes

iv timing of scores

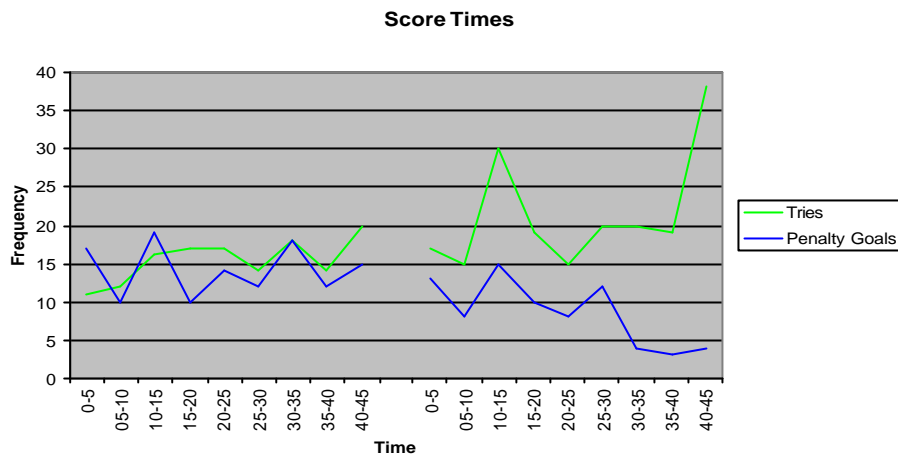
There is a noticeable difference between the time when tries are scored and the time when penalties are kicked.

In RWC2003:

139 tries (42%) were scored in the first half – **193** in the second.
while

127 penalties (62%) were kicked in the first half - **79** in the second

The following chart breaks down the timings further showing both penalties and tries in 5 minute sequences. It shows that most tries were scored in the last 10 minutes of the game while most penalties were kicked in the first 15 minutes of the game.



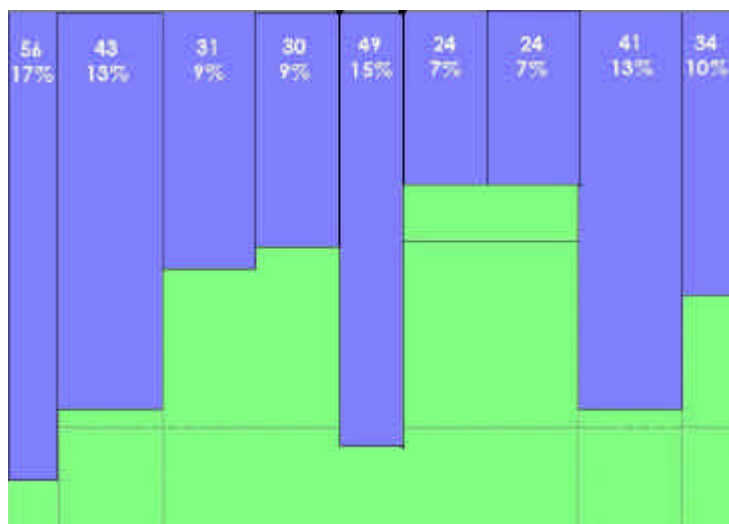
v Position where tries were scored

The chart below indicates where across the goal-line tries were scored.

It shows that 15% were scored under the posts
 48% on the left side of the posts, and
 37% on the right side of the posts.

It can be seen that most tries were scored within 5 metres of the corner flag at the left side of the pitch.

H



5 MODE OF PLAY

i match time

The average length of a match in RWC2003 was

91mins 57 seconds

(if an adjustment is made for 3 lengthy injuries, the average is nearer 91m30s)

The comparative figure for RWC1999 was

88 mins 09 seconds.

- of this difference of 3mins 48secs, a large proportion was taken up with references to the TMO.

The longest match time was 101 mins 32 secs

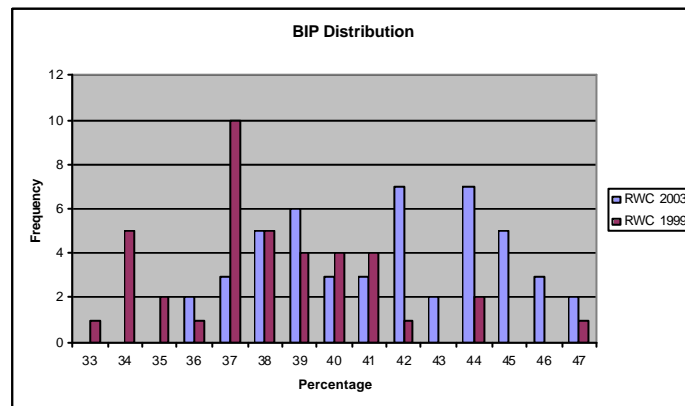
The shortest match time was 85 mins 56 secs

ii ball in play time

In percentage terms, RWC2003 matches produced an average ball in play time of **42% - or 33mins 17 secs**

This represents an increase of 4% from the 38% seen in RWC1999.

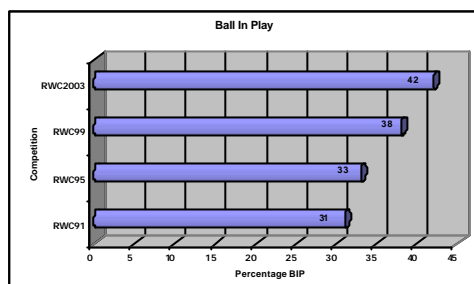
The following chart shows that the increase was a general one that was reflected throughout the competition.



The above ball in play figures also show noticeable increases from RWC91, 95 and 99 as shown below:

ball in play time RWC2003	33 mins 17 secs (42%)
ball in play time RWC99	30 mins 35 secs (38%)
ball in play time RWC95	26 mins 43 secs (33%)
ball in play time RWC91	24 mins 48 secs (31%)

In the 12 years since RWC91, ball in play time has increased by almost 35%



iii activity cycles

Activity cycles reflect what happens when the ball is in play. It comprises - ruck/mauls, passes, and kicks.

The following paragraphs show the number of rucks/mauls, passes and kicks made in RWC2003 compared with RWC1999.

		RWC99
Average no.of <u>rucks/mauls</u> per game	136	100
Average no.of <u>passes</u> per game	241	202
Average no.of <u>kicks</u> per game	52	52

It can be seen that, compared with RWC99, rucks/mauls have increased by over 30% and passes by 20%. Kicks have remained the same.

a Rucks/Mauls (2nd phase)

The average number per game was **136**.

The most in any game was 181 – the fewest was almost one hundred less at 89.

The most by any team in a game was 126 – the fewest, 35.

There was a noticeable difference between the 20 teams. England for example created 40% more rucks/mauls than Canada. The average for all countries is shown below:

	Average no of rucks/mauls per game
England	98
New Zealand	85
Australia	84
Scotland	79
Italy	79
Ireland	78
Argentina	73
Canada	70
Tonga	69
USA	67

Samoa	63
France	61
Japan	59
Wales	58
Uruguay	56
South Africa	55
Romania	55
Fiji	53
Namibia	50
Georgia	43

The above table indicates the total number of rucks/mauls created by each team in the competition expressed as an average per game. On a game by game basis therefore it shows that England, New Zealand, Australia and Scotland rucked and mauled the most.

This does not mean however that they were necessarily the teams that chose to ruck and maul the most. Another method of evaluation is to relate the number of ruck/mauls to the amount of possession the team obtained. As an illustration of this – if a team has 25% possession and creates 40 second phases, it has, nevertheless, rucked and mauled relatively more than its opponents who rucked and mauled 60 times with 75% of possession.

This method is reflected in the following table which relates the number of rucks/mauls to the team's percentage of possession. The figures show the number of rucks/mauls per minute possession.

England	2.0
Australia	2.0
Tonga	2.0
Italy	2.0
Namibia	1.9
Scotland	1.9
Canada	1.8
New Zealand	1.8
Ireland	1.8
USA	1.7
Japan	1.7
Argentina	1.6
Romania	1.6
Uruguay	1.6
Wales	1.6
Samoa	1.5
France	1.5
South Africa	1.4
Georgia	1.4
Fiji	1.4

The above table shows some interesting movements. On this basis, England rucked and mauled 11% more than Canada and not 40% as indicated in the first table. Further, Namibia, for example, who made

many fewer rucks/mauls than any other team, were not however a team that mauled infrequently. In fact, its rate of mauling, when related to possession, placed it 5th as opposed to last but one in the first table.

b Passes

Games, on average, contained **241** passes (RWC99 - 202). The most by any team in a game was 264 – the fewest, 42.

Once more, there were noticeable differences between the 20 teams – England made over 50% more passes than South Africa for example. Each team's average is shown below:

	Average no of passes per game
England	174
Australia	172
New Zealand	169
Samoa	142
Scotland	134
Ireland	130
Wales	120
France	119
South Africa	116
Argentina	118
Canada	116
Japan	114
Italy	111
Romania	105
USA	100
Fiji	90
Georgia	78
Tonga	77
Uruguay	65
Namibia	64

The above activity breakdown shows that Australia and England were the leaders in passes while Uruguay and Namibia passed the least.

When an adjustment is made to take account of possession obtained, by each team, then the table changes. Again, it shows the average number of passes per minute possession:

Passes per minute possession

Australia	4.0
England	3.5
New Zealand	3.5
Japan	3.4
Samoa	3.3
Wales	3.2
Scotland	3.2
Ireland	3.0

South Africa	3.0
Canada	3.0
Romania	3.0
France	2.8
Italy	2.8
Argentina	2.6
USA	2.6
Georgia	2.5
Namibia	2.4
Fiji	2.4
Tonga	2.3
Uruguay	1.9

Under this method of calculation, when passing is related to possession, then England, for example, made only 17% more passes than South Africa and not 50% as shown in the earlier table.

c Kicks

The average number of open play kicks per game was **52**. The average number in RWC99 was also 52

The most kicks in a game was 124 - the fewest 11

Again, there were noticeable differences between the 20 participating teams as shown in the table below

	Average no of kicks per game
Ireland	36
France	34
Argentina	32
Wales	31
Scotland	31
England	30
Fiji	30
USA	28
Italy	27
Japan	26
Canada	26
Romania	26
Australia	24
South Africa	24
Uruguay	23
Georgia	21
New Zealand	20
Namibia	20
Tonga	19
Samoa	13

On a game by game basis therefore it shows that Ireland kicked the most while Samoa kicked the least. It also shows that the five of the Six Nations countries took 5 of the top 6 spots.

This does not mean however that they were necessarily the teams that chose to kick the most. When an adjustment is made to take account of possession obtained by each team, then the table changes.

This time it shows the average number of kicks per minute's possession:

Ireland	.8
France	.8
Fiji	.8
Japan	.8
Wales	.8
Namibia	.7
Georgia	.7
Uruguay	.7
Canada	.7
Romania	.7
Italy	.7
USA	.7
Argentina	.7
Scotland	.7
Tonga	.6
South Africa	.6
Australia	.6
England	.6
New Zealand	.4
Samoa	.3

What the above table shows is that almost all teams kicked at the same rate, so that while in the first table the figures showed that Scotland kicked 50% more than Namibia, their actual rate of kicking was identical.

The above paragraphs on ruck/mauls, passes and kicks reflect the tournament averages based on all 40 matches. What has become clear however is that such activity cycles were not the same throughout the tournament. At the knock out stage, there was noticeably more activity than at the pool stages. There were more rucks/mauls, passes and kicks.

The extent of the difference is shown in the following table.

	All matches	Pool matches	Knock out
Rucks/mauls	136	132	155
Passes	241	238	256
Kicks	52	50	65*

*if one match with 126 is excluded which is the highest ever recorded, the average reduces to 56 per game.

The activity level at the knock out stage was very close to that seen in all internationals played in 2003 prior to RWC2003.

d Passing movements

Passes are grouped into passing movements – i.e. one pass movement, two pass movements and so on.

The data shows that some 83% of all passing movements contained two passes or less. This now appears to be a constant and varies little from year to year.

Most teams play to this formula, but there was a far wider range than is usual e.g. only 65% of Samoa's passing movements contained 2 or fewer passes while Namibia's rate was 96%. In this latter case, only 8 of their passing movements – out of a total of 193 – contained more than 2 passes.

Passing Sequences	1 Pass %	2 Pass %	Total %
Namibia	74	22	96
Uruguay	67	25	92
Italy	56	34	90
Tonga	62	28	90
Canada	55	34	89
Georgia	56	32	88
Fiji	63	24	87
Ireland	58	29	87
Scotland	57	29	86
USA	57	29	86
Argentina	58	26	84
Australia	54	29	83
France	55	27	82
England	51	30	81
Japan	50	31	81
Romania	52	29	81
New Zealand	47	32	79
South Africa	50	28	78
Wales	54	23	77
Samoa	35	30	65

e Restarts

There were 815 start and restart kicks in the competition. Just over 1 in 4 were contestable and of these, the kicking team regained possession on 50% of occasions.

Overall, and after allowing for kicking errors, possession was retained by the kicking team on 1 in 5 occasions.

6 LINEOUTS

average number of lineouts	33
percentage competed	61%
lineout penalties per game	1.1
possession retained	80%

The most lineouts in a game was 54, the fewest 19.

- Of over 1,500 lineouts, 59 were called for not straight. This amounts to 1 in 27 or just over one per game
- lineout penalties were also just over one per game.

7 SCRUMS

average number of scrums per game -	21
scrum penalties per game	3.2
penalty : scrum ratio	1 in 6.7
possession retained	91%

The most scrums in a game was 30 – the fewest was 9 (*n.b the match with 9 scrums had the most lineouts-54*)

- there were 172 collapses or **one in every 7 scrums**.
- on **24** occasions the 'use it or lose it' law was seen to apply.
- in the 48 matches, there were just **5 free kicks for crooked feeds**.
- the team putting in the ball was awarded **over 4 times as many penalties** as their opponents.

8 PENALTIES

i number and incidence

In RWC 2003, the average number of penalties and free kicks awarded in a game was **24**. This is 5 less than the 29 in RWC99. Games in general saw a lower incidence of penalties with 44 matches out of 48 showing penalty counts less than the 1999 average.

They also clustered more around the average figure with 60 per cent of matches showing penalty counts within 2 of the mean of 24. The most awarded in a single game was 34 – the least, 15.

ii teams penalised

New Zealand conceded the fewest number of penalties (which includes free kicks) as shown in the following table:

	average no.of penalties conceded
New Zealand	9
Argentina	10
Australia	11
Canada	11
France	11
Japan	11
Namibia	11
Samoa	11
South Africa	11
England	12
Scotland	12
Fiji	13
Italy	13
Uruguay	13
Ireland	14
Romania	14
USA	14
Georgia	15
Tonga	15
Wales	15

What needs to be noted is that the above are total figures. In other words, they comprise the total penalties conceded by each team divided by the number of matches played.

However, because the number of penalties can vary from match to match, a better measure is the **proportion** of penalties conceded by a

team in all their matches compared with their opponents. This shows that Argentina and not New Zealand were the least penalised team in relation to their opponents.

Proportion of times penalised

Argentina	41%
Samoa	42%
Canada	43%
Namibia	45%
New Zealand	47%
Australia	48%
Japan	48%
England	49%
France	49%
South Africa	49%
USA	51%
Uruguay	51%
Scotland	51%
Fiji	53%
Tonga	54%
Ireland	55%
Wales	55%
Italy	56%
Georgia	57%
Romania	59%

The above table shows that during RWC2003, all 4 semi finalists were penalised less than their opponents – but only just. Nevertheless, there has been a suggestion that the leading countries receive a favourable proportion of penalties when playing against a country outside that top tier.

An exercise was undertaken therefore to see if this was a fact - and if it was, the extent of any imbalance.

In order to do this, the 20 participating teams were divided into two groups:

- GroupA which comprised England, Ireland , France, Scotland, Wales, Italy, Australia, New Zealand, South Africa and Argentina, and
- GroupB which comprised the rest.

Teams in GroupA played 24 matches against teams in GroupB and the penalty count in each one examined. The results were as follows:

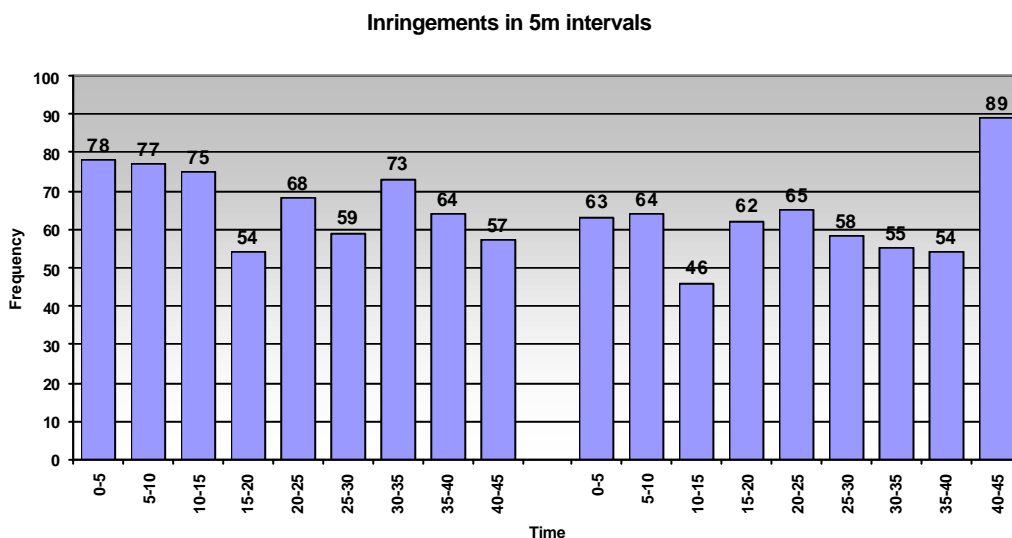
- In 3 matches, the penalty count was the same for both teams
- In 9 matches, the GroupA team was awarded the most penalties, and
- In 12 matches the GroupB team was awarded the most penalties.

Of the 593 penalties that were awarded, GroupA received 299 and GroupB 294 – a difference of just 5 penalties in 24 matches.

The suggestion therefore that the leading teams are routinely awarded most penalties when playing teams outside that top tier does not appear to have any substance.

iii times of penalties

Most penalties were awarded in the early part of the game although the highest proportion of penalties were awarded in stoppage time at the end of the game. Overall however, there was little difference in the number of penalties awarded in the first half and the second half. The following chart shows the times at which penalties were awarded:



iv categories of offences penalised

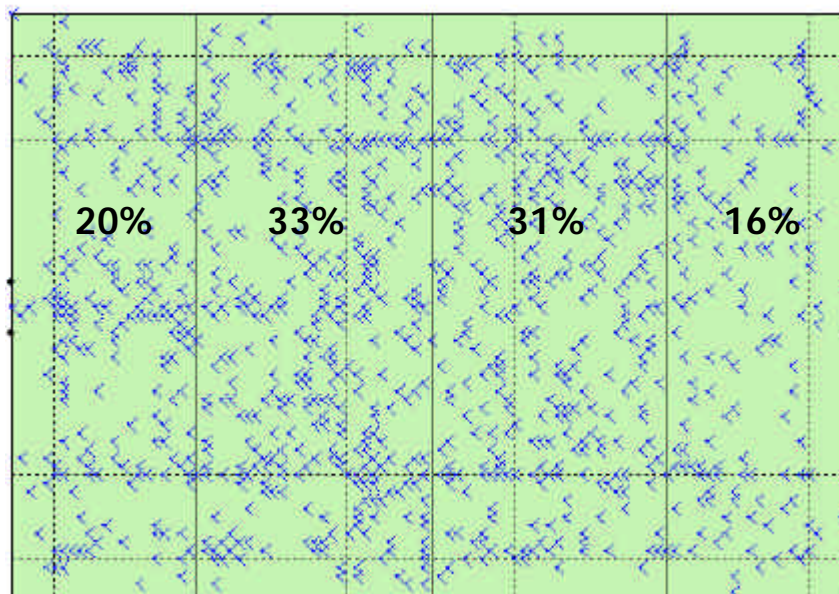
The following table groups the penalties awarded into 10 categories –

	%
ruck/tackle – on ground offences	46
offside – backs/forwards/open play	19
scrum	13
lineout	4
plus 10 metres	3
foul play	2
obstruction	5
tackle – early/late/dangerous	4
maul – pulling down	3
miscellaneous	<u>1</u>
	<u>100%</u>

The above figures are all but identical to those seen in all international matches played in 2003. In those matches, ruck/tackle penalties also accounted for 46% of all penalties and no other category of penalty varied by more than one per cent.

v pitch location of penalties

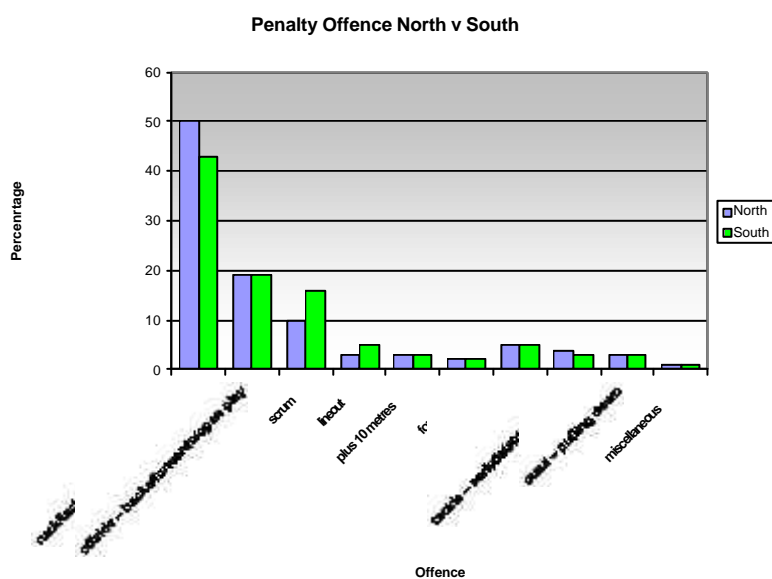
The chart below shows the location of every penalty awarded during the tournament. The figures on the chart show the percentages for each quarter of the pitch.



vi Northern and Southern Hemisphere referees

Of the 48 matches, 20 were refereed by Northern Hemisphere referees, and 28 by Southern Hemisphere referees. The following table looks at the breakdown of penalties and other match details between the two groups:

	northern	southern
i average points per match	64	55
ii average ball in play times	41%	42%
iii average number of penalties	24	24
iv <u>offences penalised:</u>		
	<u>NH referees</u>	<u>SH</u>
	%	%
ruck/tackle – on ground offences	50	43
offside – backs/forwards/open play	19	19
scrum	10	16
lineout	3	5
plus 10 metres	3	3
foul play	2	2
obstruction	5	5
tackle – early/late/dangerous	4	3
maul – pulling down	3	3
miscellaneous	1	1
	100%	100%



From the above data it can be seen that there is little difference between referees from the Northern and Southern Hemisphere in significant areas – they give the same number of penalties, there is little difference in the number of points scored and ball in play time is all but the same.

Further analysis however suggests that certain differences may have begun to emerge in some areas. Northern Hemisphere referees, for example, were more inclined to penalise the team in possession of the ball at the ruck/tackle area while Southern Hemisphere referees were likely to award more penalties at the scrum. At present these amount to no more than early indicators that will need further research before any quantified conclusions can be reached.

9 RED AND YELLOW CARDS ISSUED

The following paragraphs examine the circumstances and effects of the issue of red and yellow cards during RWC2003

a red cards

There were none issued in RWC2003

b yellow cards

<u>Number issued:</u>	<u>28</u>
Number of matches where cards issued	<u>20</u>

In 28 (or 60%) of the 48 matches, not a single yellow card was issued.

i Offences for which yellow card issued:

Foul play	3
Tackle - dangerous	10
Ruck/Tackle – on ground offences	13
Offside - forward	1
Not 10m	<u>1</u>
	<u>28</u>

15 of the 28 cards were issued for technical offences which could fall into the category of 'professional foul'. The remaining 13 were for foul play related offences.

ii Countries conceding yellow cards:

		no of matches played
France	5	7
Tonga	4	4
Fiji	3	4
Georgia	2	4
Italy	2	4
Wales	2	5
Argentina	1	4
Canada	1	4
England	1	7
Namibia	1	4
New Zealand	1	7
Romania	1	4
Samoa	1	4
Scotland	1	5
South Africa	1	5
USA	1	4
Australia	0	7
Ireland	0	5
Japan	0	4
Uruguay	<u>0</u>	4
	<u>28</u>	

iii Referees

Northern Hemisphere referees - *matches refereed* **20**

Rolland	4	<i>in 3 matches</i>
White	2	<i>in 2 matches</i>
Williams	2	<i>in 2 matches</i>
Spreadbury	2	<i>in 1 match</i>
McHugh	<u>1</u>	<i>in 1 match</i>
	<u>11</u>	<u>9 matches with YC</u>

Southern Hemisphere referees – *matches refereed* **28**

O'Brien	4	<i>in 2 matches</i>
Kaplan	3	<i>in 2 matches</i>
Walsh	3	<i>in 1 match</i>
Honiss	2	<i>in 2 matches</i>
De Luca	2	<i>in 2 matches</i>
Dickinson	2	<i>in 1 match</i>
Cole	<u>1</u>	<i>in 1 match</i>
	<u>17</u>	<u>11 matches with YC</u>

iv Times of issue

Issued during first half	6 (21%)
Issued during second half	<u>22</u> (79%)
	<u>28</u>

v Impact on scoring during sin bin period

There were 28 yellow cards issued in the tournament. Four of them resulted in both teams having 14 players for the sin bin period and in two cases 28 points were scored. The matches were won by 90-8 and 91 -7 by the team with 15 players.

The impact of the card in these latter two cases was exceptional, the effect of which was simply to increase the margin of victory of the winning team. After excluding these two cards because they would distort overall averages, the impact of the remaining 22 yellow cards was as follows:

- 1 the rate of scoring in the sin bin period was less than in the rest of the game
- 2 in not a single case did the team with 15 players benefit by more than 7 points
- 3 in over 50% of cases, the team with 15 players either had a nil points benefit or conceded more points than the offending team
- 4 the average number of points scored by the team with 15 players in the time an opponent player was off the field was 3; the average number of points scored by the team with 14 players was just under 2 – a net benefit of between one and two.

In the vast majority of cases therefore, the impact of the yellow card on scoring was minimal at best. Nevertheless, on occasions, because of the closeness of the game and the timing of the card, there can be an impact – and there were two such candidates in RWC2003:

- 1 Scotland v Fiji – where Scotland scored a drive over try in injury time just moments after a Fijian forward had been carded, and

- 2 Canada v Italy – where Italy went from 12-9 to 19-9, finally winning the game 19-14.

Apart from the above two matches, the effect of yellow cards in RWC2003 simply reflected earlier analysis at international level – that the scoring impact was minimal.

(note: the suggestion is sometimes made that one of the reasons for this could be that the game is intentionally slowed down in the 10 minute period. In order to test this, ball in play times and activity levels during the sin bin period were compared with the rest of the game.

The results of the exercise suggested that ball in play time was consistently less in the sin bin period – but only slightly so. The overall ball in play time was around 36%, compared with the total game average of 42%.

Activity levels were also less. In the case of the 15 cards where there were full 10 minute sin bin periods, while the kicking rate reflected that in the rest of the game, there were proportionately fewer rucks,/mauls and passes than in the remainder of the game. Ruck/mauls were some 20% down while passes were some 30% less. In certain individual cases, this reduction in activity was even more marked.)

10 FOUL PLAY

The relatively small number of yellow cards issued for foul play offences suggest that incidents of foul play in the tournament were few.

This is confirmed by the fact that only 18 penalties were awarded for incidents of foul play in 48 matches – a rate of 1 every three matches. (this excludes penalties for dangerous tackles which amounted to 39)

The offences for which the penalties were awarded were as follows:

Stamping	6
Punch after whistle	4
Punch at scrum	1
Punch at ruck	1
Charge after whistle	2
Slap on opponent	1
Trip	1
Grappling	1
Ball thrown in face	<u>1</u>
	<u>18</u>

Three of the above penalties resulted in the issue of a yellow card while a maximum of 3 players required treatment as a result of the offence.

11 SUBSTITUTIONS

In the 48 matches, there were 511 replacements. This includes both injury and tactical but excludes blood bins.

There was an average of **10.6** replacements per game.

Countries varied in their use of replacements. In one game for example, a country made just one replacement. Other countries used all 7 in each game they played.

The table below shows the extent to which each country used replacements during the tournament

average per game

Uruguay	7
Romania	7
Samoa	6.8
Georgia	6.3
Australia	6.3
Namibia	5.8
Tonga	5.8
Wales	5.8
Italy	5.6
South Africa	5.4
Fiji	5.3
Scotland	5.2
New Zealand	5.0
France	4.9
Ireland	4.6
Canada	4.5
Japan	4.5
England	4.4
USA	4.3
Argentina	3

12 TMO – Television Match Official

In RWC2003, there were 36 references to the TMO .

As a result of the 36 references, 16 tries were awarded.

The shortest reference to the TMO took 17 seconds – the longest, 2min 31seconds.

Of the 36,

- 2 took less than 30 seconds
- 5 took between 30 and 45 seconds
- 9 took between 45 and 60 seconds
- 8 took between 1 minute and 1min 30s
- 7 took between 1min 30s and 2 minutes
- 5 took between 2mins and 2 mins 31s

13 PLAYERS' HEIGHT AND WEIGHT

The following data relating to height and weight of players has been obtained from published sources. The degree of accuracy therefore relies on the data submissions of the contributors.

- Average height of all players **185cm or 6ft1ins**
- Average weight of all players **99kilos or 15st8lbs**

- Tallest team: Australia **188cm or 6ft2ins**
- Shortest team: Japan **182cm or 6ft**

- Heaviest teams: Australia)
New Zealand)**102kilos or 16st1lb**
Fiji)
Tonga)
- Lightest team: Japan **92 kilos or 14st7lbs**

- Average weight of front row **110kilos or 17st5lbs**
Average weight of second rows **110 kilos or 17st5lbs**

- Average height of centres **183cms or 6ft and half an inch**
Average height of wings **183cms or 6ft and half an inch**

- Average weight of centres **92kilos or 14st7lbs**
Average weight of wings **92kilos or 14st7lbs**

