



A Guide to The Ranking System July 2014

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Based on the original Explanation written by Geoff Twiss

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Introduction

Table Tennis England has commissioned a new Ranking System for the 2014/15 season.

Our old computer rating system was written by Adam Twiss in 1993 and was greatly admired, but had limitations as a standalone system.

Our new computer rating system has been developed by Table Tennis 365 and builds on the principles of our old system, whilst addressing the known limitations. Our new system has a number of major improvements which will lead to more accurate, faster and fairer ratings for all.

Major changes in the new system are:

- We now operate on a single fixed season of 1st August to 31st July.
- Results will be applied from the date of the tournament and no longer from the period the results are entered in.
- Improvements have been made to decrease the amount of time it takes to achieve a new rating and appear on the lists.
- Input errors, when corrected, are recalculated from the date of the tournament, leading to more accurate ratings for all.

This guide aims to cover how the principals of the Ranking Scheme work in a manner suitable for the experienced and novice alike.

Should you have any questions unanswered by this guide, please contact us on 01908 208898 and we will endeavour to answer them for you.

The Principles of the Ranking System

The Table Tennis England Ranking Scheme was born from the need for some system of determining the relative standards of our players. Above all else, the system needed to be fair and based on objective criteria rather than on someone's subjective opinion.

Every player has a rating which is a guide to how good a player he or she is. If players improve, their rating will go up; if they experience a drop in performance, their rating will fall. The number of points gained or lost depends on the difference in ratings of the two opponents and the weighting of the tournament they are playing in.

The system works on the odds of whether a player should win or lose from the difference between the players ratings.

Players on equal ratings should have a 50-50 chance of winning or losing. The points to be won and lost are therefore high. Players with a separation of 100 rating points represents about a 1 in 4 (or 25%) chance of an upset, with the stronger player likely to win on three occasions out of four. The points won or lost here are therefore lower.

Whenever a match takes place between two players who have a large difference in ratings the expectation is that the stronger player will win. When the stronger player beats the weaker player there are only a few points to be gained or lost; if the weaker player unexpectedly wins there is a far greater gain of points for them and loss of points for their opponent.

The more results entered for any player, the greater the accuracy of the rating it produces. A player's rating should eventually reach a stable level that reflects the balance between points won and points lost. When achieved, only an improvement in performance should improve the ranking position.

Since men do not play women at all levels, men's and women's ratings are not comparable in our system except at the very bottom.

Event Categories

There are four separate rating categories:-

Cadet – For those under the age of 15 as of 31st December during the current Administrative Year

Junior – For those under the age of 18 as of 31st December during the current Administrative Year

Senior – No age restriction

Veteran – For those 40 years of age and over on 1st January during the current Administrative Year

Points are earned depending on

- a) The category of event entered; a Junior entering a Junior event will gain or lose Junior points, a Veteran entering a Veteran event will gain or lose Veteran points, anyone entering a Senior event will gain or lose Senior points regardless of whether a match played is against a Junior, Senior or Veteran player.
- b) Who you play; matches between players of the same category, regardless of the category of the event, gain or lose points in their category as well, e.g. two Juniors meeting each other in a Senior event will gain or lose both Senior and Junior points.

Mixed events can be registered, however multi-gender encounters will only be used for calculating ratings if both participants have a rating less than 600.

Unrated Players

Unrated players gain a rating by playing at least 4 matches against players who already have a rating and achieving at least one win. The rating allocated depends on both how many wins and how high the rating of the opponents were.

- 1 Win – allocated same rating as opponent less 100 points
- 2 Wins - the median of the rating points of the two opponents
- 3 Wins – the median of the ratings of the three opponents plus 100 points
- 4 Wins or more with some losses – allocated same rating as highest opponent less 100 points
- 4 Wins or more with NO losses – allocated same rating as highest opponent plus 100 points

Foreign Player including Home Country Players

Foreign players are likely to play less often and might never get a real rating, so if they are in the top 30% of the ITTF World Ranking List then they are given a “dummy rating” before any results are entered.

Foreign players from the home countries that meet the criteria will receive the ITTF “dummy rating”. The majority, who do not qualify, will continue to be allocated dummies from their performance in the English rating tournaments as these players play in England so often that to do otherwise would be ridiculous.

Foreign players who are members are listed with the ratings but players with dummy values according to their ITTF Position are not.

The points equivalent of a particular ITTF Position in the list is always available on the website.

Note also that the new ITTF website misses players while still listing them so the position used by Table Tennis England is the physical position in the list NOT the number the ITTF displays, e.g. if the ITTF website goes 1, 2, 3, 4, 5, missing, 6 then the Table Tennis England system processes that as 1, 2, 3, 4, 5, 6, 7 and so on.

Result Calculations

The Ranking Season runs from the 1st August through to 31st July.

The Ranking System is now a one year system, where all calculations are worked from the players' starting points as at 1st August (the beginning of the season).

All results from Table Tennis England ranking events are entered into the computer. For every match the computer compares the ratings of the players involved and calculates the appropriate points. These depend on the difference in the players' ratings and on the importance of event in which the matches were played. **See sections below on Weighting Table and Points Table.**

The points "Granularity" is at the Tournament Level for all Tournaments but at Team Match level in all British League competition. "Granularity" is the point at which your rating is altered by the played matches.

Bonus Points

The ranking system also rewards success in Tournaments by giving bonus points to winners and others who perform well at an event. Bonus Points are given for those events with a weighting 1.5 or greater according to the table below ***providing at least 16 players played in the event:***

| Weighting | last 8 | last 4 | Runner-up | Winner |
|-----------|--------|--------|-----------|--------|
| 1.5+ | +2 | +5 | +10 | +20 |
| 2.0 | +5 | +10 | +20 | +30 |
| 2.5 | +10 | +15 | +30 | +50 |
| 3.0 | +20 | +50 | +75 | +100 |

When any results are entered into the system it calculates from the players starting point in strict order of play.

When an unrated player achieves a rating, the system will allocate this as his starting point and recalculate every result again from the start to produce an accurate rating for all players and all matches played.

If an error occurs, the system, when corrected, will recalculate all results from the start of year, so no player is disadvantaged.

The Ranking and Ratings Lists

The Ranking and Ratings Lists will be published once a month on a set day. The tournaments that have been included will be published on the first page of the Ratings Lists. These lists will be accurate for that date.

The Ranking System, because it is now a Date/Time based system means it is constantly changing as and when results are entered, corrections are made or when a player achieves their initial ranking.

This is totally different to the previous Ranking System which calculated from a set rating at the start of each period, all results entered in that period, regardless of when the tournament was played, were calculated against this rating and produced a new rating for the next period.

As tournament results are not received in strict date order, they are often processed in different months to which they are played. The new system takes in to account when they were played. This makes it a fluid system with ratings changing daily as results are input into the system.

Let us look at what happens to the ratings of one player –

Player X plays in 7 tournaments in the first three months of the season.

| Name of Tournament | Date Played | Results Entered | Points Earned |
|--------------------|-------------|-----------------|---------------|
| Tournament A | 16-Aug | 28-Aug | A |
| Tournament B | 31-Aug | 04-Sep | B |
| Tournament C | 06-Sep | 01-Oct | C |
| Tournament D | 13-Sep | 18-Sep | D |
| Tournament E | 20-Sep | 06-Oct | E |
| Tournament F | 04-Oct | 24-Oct | F |
| Tournament G | 18-Oct | 21-Oct | G |

The Ratings Lists are published 29/8, 30/9 and 31/10

| Date | Rating Points |
|--------|---|
| 01-Aug | X |
| 28-Aug | X + A |
| 04-Sep | X + A + B |
| 18-Sep | X + A + B + D |
| 01-Oct | X + A + B + C + D ² |
| 06-Oct | X + A + B + C + D ² + E |
| 21-Oct | X + A + B + C + D ² + E + G ² |

² denotes a recalculated total

When the first list is published he has $X + A$ points

When the second list is published he has $X + A + B + D$ points

When the third list is published he has $X + A + B + C + D^2 + E + F + G^2$ points

In the fourth month a player whom X played in tournament A gains a ranking, the system reworks the points from A and proceeds to use the new rating on B, C, D, E, F and G in turn creating an updated rating for player X without him entering tournaments in this month.

His rating when the fourth list is published in November is $X + A^2 + B^2 + C^2 + D^2 + E^2 + F^2 + G^2$ points.

You can see now that if we had audited a player after period 2 he would have $X + A + B + D$ points. Auditing him in Period 4 would show him having $X + A^2 + B^2 + C^2 + D^2$ for period 2 - a different figure. The only truly fixed ratings will be the starting points from which all calculations are done and the final rating at the end of the season when all results and adjustments have been completed.

Although this may seem complicated compared with the monthly fixed ratings it does produce a more accurate and fairer assessment of each players rating.

Inactive Periods

The Ratings Lists have a column stating inactive periods. The number of inactive periods will appear in this column – they may not have played, or they may have played in events not registered for the ranking scheme. Continued inactivity incurs penalties as detailed in the table below:

| Completed Inactive Periods | Action Taken |
|----------------------------|--------------------------------------|
| 1-5 | Numbers appear against player |
| 6 | Player temporarily removed from list |
| 12 | Player loses their rating |

Players who have been deleted from the computer database will be treated as new players if they begin to play again. They will only reappear on the list when they have collected the basic requirement of 4 matches and 1 win so that their initial rating can be calculated.

The Weightings Table

As discussed in the previous sections, the amount of points won or lost in an encounter between two players is not only dependant on the ratings of the two players but in the importance of the tournament played – it's "weighting".

Note: Where both individual and team events are played in the same Competition, the team events will be 0.5 below the overall Competition weighting. The Weightings for Competitions as at 2014-15 are shown below.

Note: Tournaments in bold red type signify those where players need a valid licence. Day Licences may be purchased for licenced events ***apart from British League where a full licence must be produced.***

THE WEIGHTINGS CHART

| | |
|--|--|
| <p>X 3 Olympic Games World Championships European Championships (Senior & Youth)</p> | <p>X 1.5 Friendly International Matches 3 Star Open Tournaments 2 Star Open Tournaments County Championships (Premier) British League (Premier) NETTS Regional Tournament (Over 40s only) English Leagues Cup Competition - Finals TABLE TENNIS ENGLAND Grand Prix & Satellite Grand Prix Home Countries Championships NETTS Rating Tournaments</p> |
| <p>X 2.5 Olympic Qualification Tournaments Commonwealth Championships & Games Euro-Asia Matches European Championships Qualification Matches European Top 12 (Seniors) European Top 10 (Juniors) ITTF World Tour (Pro-Tour) ETTU Cup European Champions League ITTF World Team Cup ITTF World Cup</p> | <p>X 1.25 County Championships (not Premier) British League (not Premier) Veterans National League National Championships <i>Regional Qualifications</i> National Regional Squad Championships British League /Junior British League Play-Offs</p> |
| <p>X 2 English National Championships (all age groups) Other Foreign Open Championships ITTF World Junior Circuit Cadet Six Nations</p> | <p>X 1 English Leagues Cup Competition National Junior League National Cadet League Regional Tournaments BATTS Super-League</p> |
| <p>X 1.75 4 Star Open Tournaments Junior and Cadet Masters NETTS National Masters (Over 40s only) UK School Games Home Nations (all age groups)</p> | <p>X 0.75 1 Star Open Tournaments</p> |

The Points Table

| EXPECTED LOSSES | | | | | | UNEXPECTED LOSSES | | | | | |
|-----------------|-----|------|-----|------|-----|-------------------|-----|------|------|------|-----|
| | 0.5 | 0.75 | 1.0 | 1.25 | 1.5 | | 0.5 | 0.75 | 1.0 | 1.25 | 1.5 |
| 0-24 | -2 | -3 | -4 | -5 | -6 | | -2 | -3 | -4 | -5 | -6 |
| 25-49 | -2 | -3 | -4 | -5 | -5 | | -2 | -3 | -4 | -5 | -8 |
| 50-99 | -2 | -3 | -3 | -4 | -5 | | -3 | -5 | -6 | -8 | -9 |
| 100-149 | -1 | -2 | -3 | -4 | -4 | | -4 | -6 | -8 | -10 | -12 |
| 150-199 | -1 | -2 | -2 | -3 | -3 | | -5 | -8 | -10 | -13 | -15 |
| 200-299 | -1 | -2 | -2 | -2 | -2 | | -6 | -9 | -12 | -15 | -18 |
| 300-399 | 0 | -1 | -1 | -1 | -1 | | -8 | -12 | -16 | -20 | -24 |
| 400-499 | 0 | 0 | 0 | 0 | 0 | | -10 | -15 | -20 | -25 | -30 |
| 500+ | 0 | 0 | 0 | 0 | 0 | | -13 | -20 | -26 | -33 | -39 |
| EXPECTED WINS | | | | | | | | | | | |
| | 0.5 | 0.75 | 1.0 | 1.25 | 1.5 | 1.75 | 2.0 | 2.25 | 2.50 | 3.0 | |
| 0-24 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 24 | |
| 25-49 | 4 | 6 | 7 | 9 | 11 | 12 | 14 | 16 | 18 | 21 | |
| 50-99 | 3 | 5 | 6 | 8 | 9 | 11 | 12 | 14 | 15 | 18 | |
| 100-149 | 3 | 4 | 5 | 6 | 8 | 9 | 10 | 11 | 13 | 15 | |
| 150-199 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 12 | |
| 200-299 | 2 | 2 | 3 | 4 | 5 | 5 | 6 | 7 | 8 | 9 | |
| 300-399 | 1 | 2 | 2 | 3 | 3 | 4 | 4 | 5 | 5 | 6 | |
| 400-499 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 3 | |
| 500+ | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| UNEXPECTED WINS | | | | | | | | | | | |
| | 0.5 | 0.75 | 1.0 | 1.25 | 1.5 | 1.75 | 2.0 | 2.25 | 2.50 | 3.0 | |
| 0-24 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 24 | |
| 25-49 | 5 | 7 | 9 | 11 | 14 | 16 | 18 | 20 | 23 | 27 | |
| 50-99 | 6 | 9 | 11 | 14 | 17 | 19 | 22 | 25 | 28 | 33 | |
| 100-149 | 7 | 11 | 14 | 18 | 21 | 25 | 28 | 32 | 35 | 42 | |
| 150-199 | 9 | 13 | 17 | 21 | 26 | 30 | 34 | 38 | 43 | 51 | |
| 200-299 | 11 | 17 | 22 | 28 | 33 | 39 | 44 | 50 | 55 | 66 | |
| 300-399 | 15 | 23 | 30 | 38 | 45 | 53 | 60 | 68 | 75 | 90 | |
| 400-499 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 120 | |
| 500+ | 25 | 38 | 50 | 63 | 75 | 88 | 100 | 113 | 125 | 150 | |

When consulting the table above you need to know the ratings of both players at the time the tournament was played and the weighting of the tournament.

By calculating the difference in ratings between the players you can see the points that will be gained or lost for each outcome.

Example:

Player A rating 1472 plays Player B rating 1247 in a 1.5 weighted tournament.

Difference in rating 225.

As the stronger player A is expected to win and if the match goes this way Player A gains 5 points and Player B loses 2 points.

If Player B wins unexpectedly Player B gains 33 points and Player A loses 18 points.

Starter Events

There is a Beginner Incentive in place for participants in National Junior League and National Cadet League. In these competitions 3 wins in a playing day will award the player 100 starter points to get them onto the Rating List. This incentive was extended to include Veteran Ratings Tournaments, where a similar problem of too many players with no ratings were competing together therefore it was impossible for these players to achieve a rating.

End of Season

To aid competitiveness at the end of each season all ratings are reduced in value by 10%. This serves to bring players closer together without changing the rating order thus increasing the possibility of a lower rated player overtaking a higher rated player.

Where players cease to be Cadets, or Juniors or become Veterans their points in the new section will be transferred from the previous level if the points at that level are greater than the points at the new level.

Administration

The Ranking Scheme is controlled by the Marketing and Communications department. The Individual Advisor to that department on Ranking matters is Malcolm Macfarlane.

Data entry and rating management in Milton Keynes is under the control of Justine Campbell. All questions, queries and complaints should be directed in the first instance to her, but they may be referred onto the Ranking Individual Advisor if there is no easy answer.

Players who think that there is an error with their rating can ask to be sent a printout of their results for a playing period, called an "audit trail". A deposit of £5 must accompany any such request, although it is then refunded if the complaint is found to be justified.

End Note

The Table Tennis England Ranking Scheme has proved itself to be accurate and consistent, and the concept of ratings is becoming more widely understood and it is expected the new system will be even more accurate. We have a system which gives the highest ratings to those players who consistently perform the best. Above all it is a dynamic system that changes players ratings if their playing standard changes.

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