

LEE COUNTY WOMEN'S TENNIS LEAGUE

EXPLANATION OF RATINGS AND MATCH HISTORY

In order for the Lee County Women's Tennis League to successfully promote and equitably manage 2,500+ members and give all players an opportunity to play competitive tennis, it is essential to implement a rating program.

The League allows members across several rating ranges to play in any one division providing clubs the ability to field teams and to keep the play competitive. In general, ratings move slowly, and if a player has close, competitive matches, she is playing in the correct place. With League play, the ultimate objective for the player is to win as many points for her team and club. With that said, the team captain should be playing strength as she sees it. The assumption is two 4.0 players competing against two 3.5 players will likely result in the 4.0 players winning the court for their team; however, it may not have any effect on the lower rated players' ratings.

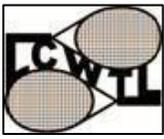
The League uses a rating number calculated to three decimal places, i.e. 3.025. For League purposes, this number is rounded up or down creating parameters for divisions allowing various options for playing purposes, i.e. 4.0, 4.0 minus, 3.5, 3.5 minus, 3.0, 3.0 minus or 2.5. See *Ratings Conversion Chart* below.

This document is intended to shed light into the *LCWTL Rating System*, provide an explanation of a player's personal rating, how this rating is calculated, and a simple interpretation of a *Personal Match History*. This informational guide is divided into the following sections:

- Ratings Conversion Chart
- About the Player's Personal Rating
- About the Rating Calculation
- About the Personal Match History

Ratings Conversion Chart

Rating	Starting Range	Ending Range
2.0	0	2.000
2.5 Minus	2.001	2.250
2.5	2.251	2.500
3.0 Minus	2.501	2.750
3.0	2.751	3.000
3.5 Minus	3.001	3.250
3.5	3.251	3.500
4.0 Minus	3.501	3.750
4.0	3.751	4.000



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4.5 Minus	4.001	4.250
4.5	4.251	4.600
5.0 Minus	4.601	5.000
5.0	5.001	5.250+

About the Player's Personal Rating:

A player's personal rating is a number, based on the results of all matches she plays during the preceding season. When a player is first entered into the League's rating system, she is placed at the mid-point of the rating range number at which she self-rated. For example, if she self-rates as a 3.0, she is entered half-way between 2.751 and 3.000. A new player entering the League's rating system with a current USTA rating is placed at the midpoint of her rating range unless she rates herself higher. After one season of play (October through April) the League's rating program calculates a player's rating based on her wins and losses. The player's rating number at the end of one season is carried forward to the start of the new season.

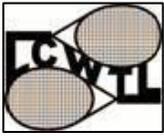
A new player's rating may be reviewed at the end of her first season and could be adjusted, up or down, if it appears her results are outside the expected norm for the season. A player who is underrated, or overrated, may have an adverse effect on both her partners, her opponents and the integrity of her division. The executive officers reserve the right to make periodic checks on new players during the playing season. If it is warranted and feasible, the reviewed player may be asked to move teams if her rating is obviously incorrect. On the rare occasion that this may occur it would be done in consultation with her captain, division officers, and club professional.

For every match being played, the player and her partner's rating are compared with that of her opponents. The result of each calculation is the new rating that is taken into effect for the following match. This new rating relies on the correct score entry of each match. Therefore, it is important that:

- Scores are entered correctly into the system each week
- Matches are entered by date order
- Matches are verified
- Each player monitors her weekly scores for accuracy

Captains and co-captains have the initial responsibility of entering and verifying match scores; however, each player is accountable for reviewing her scores to make certain they are correct.

Court positioning does not matter, as the computer takes the comparison of each team's combined ratings and calculates the expected result. If a team beats the result, that team's rating goes up. On the other side, if that same team loses by more than expected, their rating goes down. It is possible that a team's rating can go up even if they lose because they were playing against stronger opponents. Just the opposite may occur, the team can win, and their ratings may go down as the match was much closer than predicted.



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It is important to recognize that a player may be just below the division cut-off point. For example, she may have a rating of 2.994, which makes her a 3.0 rated player. It may only take one win to make her rating move to 3.002 which would move her from a 3.0 rating to a 3.5 minus rating. Understandably, the opposite is true. Therefore, a player may play many times in a season, and her rating may not change significantly, but another player may play only a few matches, and her rating will change, based on the computer-calculated results.

About the Rating Calculation

The League's ratings are run at the end of the playing season, in April, after all matches are complete. It is important that matches are entered with the exact information, i.e. *correct date of play, correct player names, and correct scores*, as the player's rating will adjust every time she plays. The computer algorithm takes into account all matches that are completed and played by all the members of the LCWTL in one season. Adjustments are made in the algorithm for the average difference in the ratings between the teams on a court in any given match. It does not matter which court you play on.

A player's rating is calculated in date order of all matches she played during the season and is based on the following:

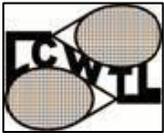
- Match Results - This rating calculation is based on the number of games won, so each game counts, even if the player loses the match.
- Opponent's Rating
- Partner's Rating

How does the rating program's algorithm work?

There are two pieces to the League's rating program calculation.

- Initially, the algorithm calculates the change in a player's rating based on how many games each team won compared to how many games the system's rating program expected each team to win, based on the difference between the ratings of the two teams. A team's rating is the average of the rating of the two players on the team.
- The algorithm takes the resulting number and averages it with the player's rating from the preceding three matches producing the new rating for that day. At the beginning of the season, the initial rating is used in the averaging until the player has played four matches. It is important to realize that, because of averaging, the ratings of the two players on a team will not change by the same amount and neither will their opponents.

Using averaging in the algorithm avoids the wild swings in ratings based on the outcome of just one match due to one good win or one bad loss. The changes over the course of time reflect the player's true playing ability. There has to be a noticeable trend downward or upward for the player's rating to move significantly. If she plays many matches, the result is a truer reflection of her ability. The culmination of her match results creates her rating and personal match history at the end-of-the-season.



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How does the Leagues' rating program compute the third-set tiebreak?

A third-set tiebreak counts as one game towards the winner's total number of games. In the example of the *personal match history* below the second match was a tiebreak and winners won by, 10 games to 8 games. In the case where the losers win more games than the winners, the program adjusts accordingly.

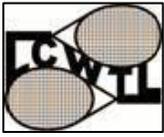
How do retirements and defaults affect the rating?

- A team that retires a match loses the points for the position played. The League's rating program ignores this match, and no games are calculated in the personal rating calculation.
- A team that defaults a match loses the points for the position played. The League's rating program ignores this match, and no games are calculated in the personal rating calculation. The names of the winners are entered into the system.
- Teams that double-default a court are not awarded any points. The League's rating program ignores this match, and no games are calculated in the personal rating calculation. No names are entered into the system.

How does the program adjust player ratings after comparing expected game difference to actual game difference?

In all League matches, the largest game difference is 12 games (6-0, 6-0). The table below shows the expected game difference that a team should win by that corresponds to the difference in the average ratings of the two teams.

Team Average Rating Difference	Expected Game Difference
0.040	1
0.080	2
0.120	3
0.160	4
0.200	5
0.240	6
0.280	7
0.320	8
0.360	8
0.400	8
0.440	9



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0.480	10
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Table 1 - Expected Game Difference

The *Team Average Rating Difference* increases in increments of 0.040 which is used in the algorithm. All recorded matches are computed and if there is a wide discrepancy (greater than 0.320) in the average rating of two teams the algorithm adjusts the expected game outcome as a result.

In the following example, two teams (*Team X* and *Team Y*) have a combined rating average of **3.370** and **3.090** where the 3.370 team wins 6-3, 6-4. The higher rated team wins.

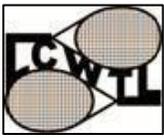
<i>Team X's</i> Combined Ratings Average	3.370
<i>Team Y's</i> Combined Ratings Average	3.090
Difference in Ratings	3.370 - 3.090 = 0.280
Expected Game Difference (See <i>Table 1</i>)	7
Actual Game Difference	5

- *Team Y*, the lower rated (3.090) team, won two games more than expected. If you look at *Table 1* above, their actual result indicates that the teams should only have been 0.200 rating points apart. The difference between 0.200 and 0.280 is 0.080. The rating of each player on court is adjusted half this amount (0.040) either up or down, depending on the match result.
- The ratings *of* both players on *Team Y* are adjusted up by 0.040, before averaging, as they did better than expected.
- The ratings of both players of *Team X*, the higher rated (3.370) team, are adjusted down by 0.040, before averaging. Even though the higher rated team won, their individual ratings went down as they did not do as well as expected.
- The new individual player rating is then averaged with her previous three matches to produce the new rating going forward.
- After the rating for each match has been calculated, the winners are awarded a small additional bonus.

About the Personal Match History

At the end of each playing season, a player can access her *Personal Match History* through the League's website. This personal match history shows how she competed throughout the playing season and the effect her wins and losses had on her rating.

A player's *Personal Match History* displays all the matches she played in date order and how her rating calculated through the last match computed. The resulting number from that last match played becomes her new start rating for the next season.



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Below is a sample section of a player's *Personal Match History*. It shows the player's name and rating at the start of the current season to three decimal places and her rating for next season to three decimal places. The rating for next season is the calculation taken after the last match played this season.

- The first match of the season was played on October 16, 2014, and the last match was played on November 20, 2014.
- The **Winners Team Before** column indicates the average rating of the winners before the match.
- The **Opponents Team Before** column indicates the average rating of the opponents before the match.
- The **This Match no averaging** column indicates the rating after this match was complete but before the averaging was done
- The **New Rating** column indicates the rating of *Player A* after each match. It is this rating that is used in the averaging.
- All numbers are rounded to three decimal places.

Match History for Player A

Player A, Rating at start of Season : 3.376 (3.5)

Rating for next season: 3.389 (3.5)

Week	Winners	Winners Team Before	Opponents	Opponents Team Before	Score	This Match no averaging	New Rating
1	PlayerA, 3.5 Partner, 3.5	3.316	Opponent 3.5 Opponent 3.5	3.348	6-3, 6-3	3.512	3.449
2	Winner,3.5- Winner 3.5-	3.146	Player A, 3.5 Partner, 3.5	3.376	6-2,3-6,1-0	3.290	3.372
3	Partner, 3.5 Player A, 3.5	3.317	Opponent, 3.5- Opponent, 3.5-	3.167	6-3, 6-3	3.417	3.408
4	Partner,3.5 Player A, 3.5	3.346	Opponent, 3.0 Opponent, 3.0	2.918	6-0, 6-2	3.437	3.422
5	Winner,3.5 Winner, 3.5	3.466	Player A 3.5 Partner, 3.5	3.401	5-7,6-0,1-0	3.354	3.389