



NCJLA RPI FAQ

Through a new partnership between the NCJLA and LaxBytes.com, High School and A-Level rankings will be calculated through a Ratings Percentage Index (RPI). The NCJLA uses an RPI that considers the team's winning percentage, the team's strength of schedule based on the winning percentage of their opponents, and the team's strength of schedule based on the winning percentages of opponents once-removed: teams played by the team's opponents. You can find more information about statistics and standings calculations in the NCJLA Operations Guide section 20.

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Who is LaxBytes?

LaxBytes is a lacrosse data analytics company founded and run by Larry Feldman. LaxBytes powers most RPI ratings systems throughout high school and college lacrosse including those used on laxpower.com to determine regional and national high school rankings as well as the NCAA rankings.

Why did the NCJLA partner with LaxBytes?

It's critically important that our standings are accurate and communicated in a timely manner. In recent years, this has been a moving target and our ratings have come under increased scrutiny due to calculation errors. By partnering with LaxBytes, we now have a reliable and consistent mechanism to manage team rankings that is based on years of best practices along with a credible partner who is trusted by high school and college lacrosse programs throughout the country.

How is Component 1 calculated?

Component 1 is a team's winning percentage of divisional games. Non-divisional games (eg. 14A vs 14B) will not be counted.

How is Component 2 Calculated?

Component 2 is defined as an opponent's winning percentage. However, the games against the team for whom the Component 2 is being calculated are excluded. Furthermore, Component 2 is an average of all opponent's winning percentages, not the cumulative $W/(W+L)$.

For example, let's look at [this snapshot of the G14A Rankings](#) and, specifically, the G14A Riptide to determine how they have been awarded a 0.5914 Component 2 score.

First we take the record of each opponent without games against Riptide. While Diablo has a 5-1 divisional record, their record without the Riptide game is 5-0. So, their contribution to Riptide's Component 2 score is 1.000. Similarly, Firehawks overall record is 3-3 but, without the Riptide game, it is 3-2 for a .600 contribution to Riptide's Component 2 score. .

See below:

	Overall Record				Record w/o Riptide games			
	W	L	T	%	W	L	T	%
Diablo	5	1	0	0.833	5	0	0	1.0000
Firehawks	3	3	0	0.500	3	2	0	0.6000
EDH	2	5	1	0.313	2	4	1	0.3571
Pleasanton	2	4	0	0.333	2	3	0	0.4000
Coyotes	3	3	0	0.500	3	2	0	0.6000
	15	16	1		15	11	1	

Once all opponent's winning percentages have been calculated excluding games against Riptide, we take an average of their winning percentages to determine Riptide's Component 2 score.

Opponent	Win Pct w/o Riptide
Diablo	1.0000
Firehawks	0.6000
EDH	0.3571

Pleasanton	0.4000
Coyotes	0.6000
Average	0.5914

How is Component 3 Calculated?

Component 3 is defined as an Opponent's Opponent's Winning Percentage. Seems complicated but it's simply an average of all of an opponent's Component 2 scores.

Again, using Riptide G14A from our [sample snapshot](#), we see a Component 3 score of 0.5600. This is determined by averaging all of their opponent's Component 2 scores.

Opponent	Component 2 Score
Diablo	0.5627
Firehawks	0.5167
EDH	0.5958
Pleasanton	0.6917
Coyotes	0.4333
Average (Riptide Comp 3 Score)	0.56004

How do you calculate RPI based on the three components?

Once we know a team's Component 1, Component 2, and Component 3 scores, we calculate the team's RPI by multiplying each by the weighting agreed upon by the clubs and [published by the NCJLA](#). At the time this document was last updated, the weightings were as follows:

Component	Description	Weighting
1	Winning Percentage	0.25
2	Opponent's Winning Percentage	.50
3	Opponent's Opponent's Winning Percentage	.25

Therefore, with [our example](#), G14A Riptide's cumulative RPI would be calculated as follows:

Component	Description	Weighting		G14 Riptide Value	Cumulative RPI Score
1	Winning Percentage	0.25	x	1.000	.2500
2	Opponent's Winning Percentage	.50	x	.5914	.2957
3	Opponent's Opponent's Winning Percentage	.25	x	.5600	.1400
Total					.6857

Why not use the cumulative wins divided by the total games for Component 2 and Component 3?

We don't calculate it that way because that's not how RPI is defined or generally accepted. We feel strongly that the NCJLA should stay consistent and true to RPI best practices as long as we continue to use RPI as our measure for A level and High School rankings.

How are ties handled?

Ties are distributed equally towards the win and loss columns at a rate of 0.5 per tie. For example, if a team's record is 3-5-2, their winning percentage would be calculated as:

$$(3+(0.5 \times 2))/10 = 4/10 = .4000$$

Given ties are evenly distributed between W and L at a rate of 0.5 per tie, the team's Component 1 record will be reflected as a 4-6 record.

This is consistent for Component 2 and Component 3 as well.

How often will these rankings be updated?

Rankings will be updated by Thursday of each week during the Spring season.

Who do I contact with questions?

Contact your division's commissioner or the boys/girls Director with additional questions.

Who is responsible for posting scores?

All teams should enter the results from their games with in 24 hours regardless if they are the home, away, winner or loser.

Who do we contact if one of the scores is incorrect?

If there is a discrepancy between the scores the teams should reference the score sheet. A copy of the score sheet should have the final score clearly written and have signatures of the referee/umpire. If the score sheet can not be located or was damaged the boys or girls director of the NCJLA will contact the assignor for the game to retrieve the score from arbitersports.com.

Why do the rankings seem "off" early in the season?

There are no preseason expectations - everyone starts at zero. Consequently, the numbers can really skewed early in the season because teams have played so few games. For example, a team can be 2-0, but its opponents haven't played anyone else yet, so its strength of schedule is 0. That's 75% of the formula, so the

team won't be rated very highly. The data starts to take shape and look reasonable as conference play gets into full swing. And the more games played, the better the data gets.

Why is my team ranked behind a team we beat?

The RPI is a measurement of strength of schedule and how you did against that schedule. The ENTIRE schedule. To look at only one game ignores the "any given day" aspect of sports. RPI gives the league a summary of how the team does on a regular basis.

Why did my team move up/down after a loss, win or even if we did not play?

There could be several reasons. One is that since the RPI measures strength of schedule, so it is possible to have a higher RPI after playing a strong team, win or lose. A team's RPI can also change when they don't even play if one of the teams on their schedule played. It is good for teams to have a variety of opponents. Another thing is that rankings are relative, meaning that a team's ranking is affected by the results of teams around them in the rankings. A team could move in the rankings without even playing if the teams around them played. This is the way computer models can work and is often the most confusing difference for people used to following polls.