

Procedure for Conducting the Regional Tournament Draw

Goals

The regional tennis tournaments represent a one-of-a-kind experience for our student-athletes. As such, it is imperative that the draw be conducted in a manner that provides a fair opportunity to advance to the state tournament.

The NCHSAA has given the following guidelines for conducting the draw.

1. That four players (or doubles teams) be seeded and placed in different quarters of the draw.
2. That players (or doubles teams) from the same school be placed in opposite halves of the draw, if possible.
3. That players (or doubles teams) from the same conference not meet in the first round of play, if possible.
4. That, after these conditions are satisfied, the draw be conducted in a random manner.

Taken together, these guidelines insure that the players who have distinguished themselves during the season do not meet in the early rounds of the tournament, that teammates do not have to play each other until as late in the tournament as possible, that players get at least one opportunity to play someone new to them, and that the draw is conducted in a fair manner, giving all players no artificial advantage.

The Problem

However, implementing these goals is not an easy or straightforward task.

If a 16-player draw is conducted in an entirely random fashion, there are over 81 billion unique combinations. Once the four seeded players are selected, there are still almost 30 million possible combinations of the remaining twelve players. If the conditions above are met in only 0.01% of these situations, that's still about 3,000 potential solutions.

The phrase, "if possible" above isn't very helpful, either

- Unless there are more than two entries from a school, it is always "possible" to separate teammates into opposite halves of the draw. (If a school sends three entries, as some conferences allow, it is still possible to separate those entries into different quarters of the draw, and insure that teammates will not play each other on the first day of the regional, with a spot at the state tournament at stake.)
- Unless there are more than eight entries from a conference, it is always "possible" to avoid first-round intra-conference matches.

So, there are always possible combinations that meet the guidelines described above, and coaches will insist they be met, especially if it works to the benefit of their own players.

It is relatively easy to construct a bracket manually that satisfies the conditions set forth. But, in any such construction, some players will be placed at a disadvantage: playing a top seed in the first round, for instance. Coaches will naturally and rightfully object to a process that works to the disadvantage of their players if they do not perceive that process to be random and fair.

The challenge, then, is to create a process which ...

- Leads to a valid bracket, satisfying the four mandates from NCHSAA.
- Creates that bracket randomly from among all valid possibilities.
- Reaches its solution on its first attempt.
- Reaches its solution quickly enough to be done in the context of a one-hour coaches meeting.
- Can be done in public, in an open and transparent manner, in order to satisfy a dozen or so highly self-interested coaches.
- Can be used in all regionals, regardless of the number of teams and conferences involved.

The Customary Approach

The customary approach is to draw the unseeded players, and then move them to the “first available line” if they are drawn to lines for which they are ineligible based on the mandates.

This process has two major drawbacks.

1. It creates confusion, and the potential for error and conflict, as the director and coaches must “think ahead” about players who have not yet been drawn and where they must be placed in the draw.

2. It is unfair, in that players who are entered with teammates obtain a better than random chance of receiving a favorable draw. (A “favorable draw” is defined as being drawn into a quarter where a player does not have to play either of the top two seeds in the first two rounds.)

- If an unseeded player has a seeded teammate, there is a 75% chance that he/she will avoid the top two seeds in the first two rounds. (A fair and random process should yield a 50% chance.)
- If two teammates are both unseeded, then each has a 59% chance of avoiding the top two seeds in the first two rounds.

See the appendix, “Flaws in the Customary Approach”, for a complete explanation.

A Proposed Solution

This solution is found in the order of the guidelines themselves, and in an observation based on simple mathematics.

The guidelines declare, in order of importance ...

1. Seed the top four players.
2. Separate teammates into opposite halves of the draw.
3. Separate conference members such that they do not meet one another in the first round.
4. Randomly draw, once the above conditions have been met.

The observation is this:

- If players from the same conference are not to meet in the first round, then no more than two players from any conference can be in a given quarter of the draw.
- By extension, no more than four players from a conference can be in any given half of the draw.

The order of the guidelines, and this observation, dictate the steps in a process that will yield a solution on the first attempt.

Step 1 - Seed the top four players.

Step 2 - Sort the field into two halves by ...

- a. placing the seeds in the appropriate halves,
- b. separating teammates into opposite halves, (or, if three players are from the same school, placing one of the teammates in one half of the draw, and the other two in the opposite half).
- c. randomly drawing the remainder of the players, insuring that no more than four members of any one conference are in either half.

Step 3 - Sort the field into four quarters by ...

- a. placing the seeds in their appropriate quarters of the draw,
- b. (if three players were entered from one school, separate the two teammates in one half of the draw into separate quarters)
- c. draw the remaining players randomly from each half into the two constituent quarters, insuring that no more than two members of any one conference are in any given quarter.

Step 4 – Assign players to lines in the bracket by ...

- a. placing the seeds on the appropriate lines in the bracket, (lines 1, 5, 12, and 16)
- b. in each quarter, placing conference members such that they do not meet in the first round,
- c. draw the remaining players in each quarter into the remaining open lines in that quarter.

Preparation

The director will need to make the following preparations in order to conduct the draw.

1. Prepare a chart, similar to the one found on page 5, large enough for the coaches to see. This can be done by hand on a white board, or on a sufficiently large piece of paper or poster board.
2. Prepare a roster of entries, sorted by conference and school, for the coaches' reference.
3. Prepare a set of “post-it notes”, one for each player. Each conference gets a different color, and each player is on a separate post-it note, with her name and school listed.
4. Prepare a set of twelve (12) ping-pong balls. Six should be white, and the other six should be orange (or some other color).
 - Number the white balls 2, 3, 4, 6, 7, and 8. (These are the open lines in the top half of a 16-player draw.)
 - Number the orange balls 9, 10, 11, 13, 14, and 15. (These are the open lines in the bottom half of the draw.)
5. Provide a container from which the ping-pong balls can be drawn.

Regional Draw Chart			
Entry List	Sorted by Halves	Sorted by Quarters	Drawn to the Bracket
			1
			2
			3
			4
			5
			6
			7
			8
			9
			10
			11
			12
			13
			14
			15
			16

Process

For purposes of illustration, the process is depicted step-by-step, using a mythical set of entries, and the conferences from the 2014 2A Mid-East Women's regional.

This regional consisted of three conferences as follows:

- *Northern Carolina (blue) - 6 entries*
- *Mid-State (yellow) - 4 entries*
- *Four County (green) - 3 entries*
- *Three Rivers (orange) - 3 entries*

The roster for the for this mythical regional is found below. The initial setup on the draw sheet is found on page 7.

Regional Entries

Northern Carolina

Serena Williams (NCSSM)
Venus Williams (NCSSM)
Monica Seles (Franklinton)
Maria Sharapova (Roanoke Rapids)
Li Na (Southern Vance)
Lindsay Davenport (South Granville)

Mid-State

Justine Henin (Jordan-Matthews)
Kim Clisters (Jordan-Matthews)
Martina Hingis (Cummings)
Steffi Graf (Carrboro)

Four County

Tracy Austin (Clinton)
Chris Evert (Clinton)
Martina Navratilova (Clinton)

Three Rivers

Margaret Court (Fairmont)
Evonne Goolagong (Fairmont)
Billie Jean King (St. Pauls)

Regional Draw Chart			
Entry List	Sorted by Halves	Sorted by Quarters	Drawn to the Bracket
<div>Serena Williams (NCSSM)</div> <div>Venus Williams (NCSSM)</div> <div>Monica Seles (Franklinton)</div> <div>Maria Sharapova (Roanoke Rapids)</div> <div>Li Na (Southern Vance)</div> <div>Lindsay Davenport (South Granville)</div> <div>Justine Henin (Jordan-Matthews)</div> <div>Kim Clisters (Jordan-Matthews)</div> <div>Martina Hingis (Cummings)</div> <div>Steffi Graf (Carrboro)</div> <div>Tracy Austin (Clinton)</div> <div>Chris Evert (Clinton)</div> <div>Martina Navratilova (Clinton)</div> <div>Margaret Court (Fairmont)</div> <div>Evonne Goolagong (Fairmont)</div> <div>Billie Jean King (St. Pauls)</div>			1
			2
			3
			4
			5
			6
			7
			8
			9
			10
			11
			12
			13
			14
			15
			16

Step 1 - Seed the top four players.

This is done by vote of the coaches, in accordance with NCHSAA guidelines. There would be no change from the current and accepted practice of having coaches nominate and vote on the seeded players.

Once the seeds have been agreed to, mark the “post-it note” of the seeded players with the number of their seeding.

The seeds for the mythical regional are as follows:

- 1. Serena Williams (NCSSM)*
- 2. Steffi Graf (Carrboro)*
- 3. Martina Navratilova (Clinton)*
- 4. Margaret Court (Fairmont)*

The chart on page 9 shows the seeded players marked on the entry list.

Regional Draw Chart			
Entry List	Sorted by Halves	Sorted by Quarters	Drawn to the Bracket
<div>#1</div> <div>Serena Williams (NCSSM)</div> <div>Venus Williams (NCSSM)</div> <div>Monica Seles (Franklinton)</div> <div>Maria Sharapova (Roanoke Rapids)</div> <div>Li Na (Southern Vance)</div> <div>Lindsay Davenport (South Granville)</div> <div>Justine Henin (Jordan-Matthews)</div> <div>Kim Clisters (Jordan-Matthews)</div> <div>Martina Hingis (Cummings)</div> <div>#2</div> <div>Steffi Graf (Carrboro)</div> <div>Tracy Austin (Clinton)</div> <div>Chris Evert (Clinton)</div> <div>#3</div> <div>Martina Navratilova (Clinton)</div> <div>#4</div> <div>Margaret Court (Fairmont)</div> <div>Evonne Goolagong (Fairmont)</div> <div>Billie Jean King (St. Pauls)</div>			1
			2
			3
			4
			5
			6
			7
			8
			9
			10
			11
			12
			13
			14
			15
			16

Step 2 - Sort the players into two halves of the draw.

A. Place the seeded players in the appropriate halves of the draw.

The #1 seed is placed in the top half, and the number 2 seed is placed in the bottom half.

If a teammate of either the #1 or #2 seed is seeded third or fourth, that teammate is placed in the opposite half of the draw, and the corresponding seed is placed in the other half.

If, on the other hand, no teammates are so seeded, then the position of the #3 and #4 seeds is decided by a draw. Place one white ping-pong ball and one orange ping-pong ball in the container, and let the coach of the #3 seed draw one of the balls.

“White” means “up”, which in this case means “top half”. Orange means “down”, in this case, “bottom half”. (Ignore the number on the ball for these purposes.)

In the example, the seeded players are all from different schools. Serena Williams is placed in the top half, and Steffi Graf is placed in the bottom half. Martina Navratilova's coach drew an orange ball from the pot, so she was also placed in the bottom half. Margaret Court is then placed in the top half.

See page 11 for the chart after this step is completed.

Regional Draw Chart			
Entry List	Sorted by Halves	Sorted by Quarters	Drawn to the Bracket
<div>Venus Williams (NCSSM)</div> <div>Monica Seles (Franklinton)</div> <div>Maria Sharapova (Roanoke Rapids)</div> <div>Li Na (Southern Vance)</div> <div>Lindsay Davenport (South Granville)</div> <div>Justine Henin (Jordan-Matthews)</div> <div>Kim Clisters (Jordan-Matthews)</div> <div>Martina Hingis (Cummings)</div> <div>Tracy Austin (Clinton)</div> <div>Chris Evert (Clinton)</div> <div>Evonne Goolagong (Fairmont)</div> <div>Billie Jean King (St. Pauls)</div>	<div>#1 Serena Williams (NCSSM)</div> <div>#4 Margaret Court (Fairmont)</div>		1
			2
			3
			4
			5
			6
			7
			8
	<div>#2 Steffi Graf (Carrboro)</div> <div>#3 Martina Navratilova (Clinton)</div>		9
			10
			11
			12
			13
			14
			15
			16

Step 2 - Sort the players into two halves of the draw. (continued)

B. Separate teammates into opposite halves of the draw.

1. Examine each seeded player to determine if that player has an unseeded teammate also entered in the tournament. If so, place the unseeded teammate in the half of the draw opposite from when the seeded player has been placed.

In the example, the #1 seed, Serena Williams, has an unseeded teammate, Venus Williams, also entered in the tournament. Since Serena is already in the top half of the draw, Venus is placed in the bottom half.

The #4 seed, Margaret Court, also has a teammate, Evonne Goolagong, who is unseeded. Since Court is in the top half of the draw, Goolagong is placed in the bottom half.

2. Examine the remaining field to see if there are two-person entries from the same school in which neither player is seeded. If so, place one white ball and one yellow ball in the pot, and have the coach draw on behalf of one of the players. Place the players in the half of the draw corresponding to the color of the ball drawn. (“White” equals top half; “orange” equals bottom half.

In the example, Justine Henin and Kim Clisters are both entered from Jordan-Matthews, and neither is seeded. Henin drew the orange ball, and was placed in the bottom half. Clisters was placed in the top half.

3. For three-person entries, use the following procedures.

- a. If none of the players is seeded, place two white balls and two orange balls in the pot, and draw for each player. This will insure that no more than two of the three are in a given half, and that each is placed by virtue of a random draw.
- b. If one of the three players is seeded, note the half of the draw in which that player has been placed. Place one ball of that color, and two balls of the other color in the pot, and draw for the two unseeded players.
- c. If two of the three players are seeded, place one white ball and one orange ball in the pot, and draw for the unseeded player.
- d. If all three players are seeded, then they would already be placed in the draw prior to this step.

In the example, there are three entries from Clinton, and only one of the three is seeded, Martina Navratilova. Navratilova has been placed in the bottom half of the draw. Using procedure b. above, two white balls and one orange ball were placed in the pot, and the coach drew for Evert and Austin.

Evert drew “white” and was placed in the top half. Austin drew “orange” and was bottom half.

See page 13 for the chart after this step has been completed.

Regional Draw Chart			
Entry List	Sorted by Halves	Sorted by Quarters	Drawn to the Bracket
<div>Monica Seles (Franklinton)</div> <div>Maria Sharapova (Roanoke Rapids)</div> <div>Li Na (Southern Vance)</div> <div>Lindsay Davenport (South Granville)</div>	<div>#1 Serena Williams (NCSSM)</div> <div>#4 Margaret Court (Fairmont)</div> <div>Kim Clisters (Jordan-Matthews)</div> <div>Chris Evert (Clinton)</div>		1
			2
			3
			4
			5
			6
			7
			8
<div>Martina Hingis (Cummings)</div> <div>Billie Jean King (St. Pauls)</div>	<div>#2 Steffi Graf (Carrboro)</div> <div>#3 Martina Navratilova (Clinton)</div> <div>Venus Williams (NCSSM)</div> <div>Evonne Goolagong (Fairmont)</div> <div>Justine Henin (Jordan-Matthews)</div> <div>Tracy Austin (Clinton)</div>		9
			10
			11
			12
			13
			14
			15
			16

Step 2 - Sort the players into two halves of the draw. (continued)

C. Place conference members such that no more than four players from the same conference are placed in a given half of the draw.

For any conference that has more than four entries in the tournament, examine the chart to see if there is a possibility that more than four members of that conference could be drawn to the same half of the draw.

If not, skip to the next step.

If so, determine the maximum number of conference members that can be drawn to each half of the draw, and place that number of white and orange balls in the pot. The coaches then draw from the pot on behalf of their players, and the players are placed in the top or bottom half based on the color of the ball drawn.

In the example, the Northern Carolina conference has four members yet to be placed, and there are four open spots in the top half of the draw. If all four were drawn to the top half, then there would be five conference members in the top half, since Serena Williams, the #1 seed, is in that half and is also a member of the Northern Carolina conference.

So, only three of the four remaining Northern Carolina conference members can be drawn to the top half. Three white balls were placed in the pot.

Since there are only two open spots in the bottom half of the draw, two orange balls were added to the pot.

The results of the draw were as follows ...

Monica Seles – orange

Maria Sharapova – white

Li Na – white

Lindsay Davenport – white

These players were then placed in the halves of the draw indicated by the color of the balls drawn. See the chart on page 15 for the results.

Regional Draw Chart			
Entry List	Sorted by Halves	Sorted by Quarters	Drawn to the Bracket
	<div>#1 Serena Williams (NCSSM)</div> <div>#4 Margaret Court (Fairmont)</div> <div>Kim Clisters (Jordan-Matthews)</div> <div>Chris Evert (Clinton)</div> <div>Maria Sharapova (Roanoke Rapids)</div> <div>Li Na (Southern Vance)</div> <div>Lindsay Davenport (South Granville)</div>		1
			2
			3
			4
			5
			6
			7
			8
Martina Hingis (Cummings)	<div>#2 Steffi Graf (Carrboro)</div> <div>#3 Martina Navratilova (Clinton)</div> <div>Venus Williams (NCSSM)</div> <div>Evonne Goolagong (Fairmont)</div> <div>Justine Henin (Jordan-Matthews)</div> <div>Tracy Austin (Clinton)</div> <div>Monica Seles (Franklinton)</div>		9
			10
			11
			12
			13
			14
			15
Billie Jean King (St. Pauls)			16

Step 2 - Sort the players into two halves of the draw. (continued)

D. Draw the remaining players into the remaining open spots in each half of the draw.

Place one ball of the appropriate color into the pot, based on the number of open places remaining in each half of the draw. Have the coaches then draw on behalf of the players, and place the players in the half of the draw indicated by the color of the ball chosen.

In the example, there remains one empty place in each half of the draw. One white ball and one orange ball were placed in the pot.

The coach for Martina Hingis drew an orange ball, so she was placed in the bottom half of the draw. Billie Jean King was then placed in the last open spot in the top half.

See the chart on page 17 for the result at the completion of Step 2.

Regional Draw Chart			
Entry List	Sorted by Halves	Sorted by Quarters	Drawn to the Bracket
	<div>#1</div> <div>Serena Williams (NCSSM)</div>		1
	<div>#4</div> <div>Margaret Court (Fairmont)</div>		2
	<div>Kim Clisters (Jordan-Matthews)</div>		3
	<div>Chris Evert (Clinton)</div>		4
	<div>Maria Sharapova (Roanoke Rapids)</div>		5
	<div>Li Na (Southern Vance)</div>		6
	<div>Lindsay Davenport (South Granville)</div>		7
	<div>Billie Jean King (St. Pauls)</div>		8
	<div>#2</div> <div>Steffi Graf (Carrboro)</div>		9
	<div>#3</div> <div>Martina Navratilova (Clinton)</div>		10
	<div>Venus Williams (NCSSM)</div>		11
	<div>Evonne Goolagong (Fairmont)</div>		12
	<div>Justine Henin (Jordan-Matthews)</div>		13
	<div>Tracy Austin (Clinton)</div>		14
	<div>Monica Seles (Franklinton)</div>		15
	<div>Martina Hingis (Cummings)</div>		16

Step 3 - Sort the players into the four quarters of the draw.

A. Move the seeded players into the appropriate quarters of the draw.

Place the #1 seed in the top quarter of the draw. Place the other seed from the top half into the second quarter of the draw.

Place the #2 seed in the bottom quarter of the draw. Place the other seed from the bottom half in the third quarter of the draw.

In the example, Serena Williams, the #1 seed, is placed in the top quarter, and Margaret Court, the #4 seed is placed in the second quarter.

In the bottom half, Steffi Graf, the #2 seed, is placed in the bottom quarter, and Martina Navratilova, the #3 seed, is placed in the third quarter.

See the chart on page 19 for the result.

Regional Draw Chart			
Entry List	Sorted by Halves	Sorted by Quarters	Drawn to the Bracket
	<div>Kim Clisters (Jordan-Matthews)</div> <div>Chris Evert (Clinton)</div> <div>Maria Sharapova (Roanoke Rapids)</div> <div>Li Na (Southern Vance)</div> <div>Lindsay Davenport (South Granville)</div> <div>Billie Jean King (St. Pauls)</div>	<div>#1 Serena Williams (NCSSM)</div>	1
			2
			3
			4
		<div>#4 Margaret Court (Fairmont)</div>	5
			6
			7
			8
	<div>Venus Williams (NCSSM)</div> <div>Evonne Goolagong (Fairmont)</div> <div>Justine Henin (Jordan-Matthews)</div> <div>Tracy Austin (Clinton)</div> <div>Monica Seles (Franklinton)</div> <div>Martina Hingis (Cummings)</div>	<div>#3 Martina Navratilova (Clinton)</div>	9
			10
			11
			12
		<div>#2 Steffi Graf (Carrboro)</div>	13
			14
			15
			16

Step 3 - Sort the players into the four quarters of the draw. (continued)

B. Separate teammates into different quarters of the draw.

This step is necessary only if there were a three-player entry from the same school. If there were no three-player entries, skip to the next step.

If there were, then separate the two players who are in the same half of the draw as follows:

a. If one of the two is seeded, place the unseeded teammate in the other quarter of that half of the draw.

b. If neither player is seeded, place one white ball and one orange ball in the pot, and draw on behalf of one of the players. White indicates the upper quarter (1st or 3rd, depending on the half of the draw in play) and orange indicates the lower quarter (2nd or 4th). Place the players in the quarter of the draw indicated by the ball chosen.

In the example, Tracy Austin and Martina Navratilova, both from Clinton, are in the bottom half of the draw. Navratilova, the #3 seed, is already placed in the third quarter of the draw. Therefore, Austin is placed in the bottom quarter.

See the chart on page 21 for the result.

Regional Draw Chart			
Entry List	Sorted by Halves	Sorted by Quarters	Drawn to the Bracket
	<div>Kim Clisters (Jordan-Matthews)</div> <div>Chris Evert (Clinton)</div> <div>Maria Sharapova (Roanoke Rapids)</div> <div>Li Na (Southern Vance)</div> <div>Lindsay Davenport (South Granville)</div> <div>Billie Jean King (St. Pauls)</div>	<div>#1 Serena Williams (NCSSM)</div>	1
			2
			3
			4
		<div>#4 Margaret Court (Fairmont)</div>	5
			6
			7
			8
	<div>Venus Williams (NCSSM)</div> <div>Evonne Goolagong (Fairmont)</div> <div>Justine Henin (Jordan-Matthews)</div> <div>Monica Seles (Franklinton)</div> <div>Martina Hingis (Cummings)</div>	<div>#3 Martina Navratilova (Clinton)</div>	9
			10
			11
			12
		<div>#2 Steffi Graf (Carrboro)</div> <div>Tracy Austin (Clinton)</div>	13
			14
			15
			16

Step 3 - Sort the players into the four quarters of the draw. (continued)

C. Place conference members into the quarters of the draw, such that no more than two members of any conference are in any given quarter of the draw.

Examine each half of the draw in turn.

If there are three or four conference members in a half of the draw, then place a white ball in the pot for the maximum number of remaining conference members that can be drawn into the upper quarter, and an orange ball for the maximum number of conference members that can be drawn into the lower quarter. Note: seeded players and their teammates may already be placed in to the quarters.)

Draw on behalf of each remaining conference member, and place the player in the quarter indicated by the ball chosen.

In the example, in the top half, there were four members of the Northern Carolina conference. Serena Williams, the #1 seed, has already been placed in the top quarter. One white ball and two orange balls were placed in the pot, as only one of the remaining conference members can be drawn into the top quarter.

Maria Sharapova drew the white ball, and was placed in the top quarter. Li Na and Lindsay Davenport were placed in the second quarter.

In the bottom half, there were three members of the Mid-State conference. Steffi Graf, the #2 seed, has already been placed in the bottom quarter.

Theoretically, either of the two remaining players could be drawn into the bottom quarter, but not both, so one orange ball was placed in the pot. However, both of the remaining players could be drawn into the third quarter, so two white balls were placed in the pot.

The players' coaches each drew on behalf of their players as follows.

Justine Henin – white

Martina Hingis – white

Both players were placed in the third quarter.

See the chart on page 23 for the result.

Regional Draw Chart			
Entry List	Sorted by Halves	Sorted by Quarters	Drawn to the Bracket
	<div>Kim Clisters (Jordan-Matthews)</div> <div>Chris Evert (Clinton)</div>	<div>#1 Serena Williams (NCSSM)</div>	1
		<div>Maria Sharapova (Roanoke Rapids)</div>	2
			3
			4
		<div>#4 Margaret Court (Fairmont)</div>	5
		<div>Li Na (Southern Vance)</div>	6
		<div>Lindsay Davenport (South Granville)</div>	7
			8
	<div>Venus Williams (NCSSM)</div> <div>Evonne Goolagong (Fairmont)</div>	<div>#3 Martina Navratilova (Clinton)</div>	9
		<div>Justine Henin (Jordan-Matthews)</div>	10
		<div>Martina Hingis (Cummings)</div>	11
			12
		<div>#2 Steffi Graf (Carrboro)</div>	13
		<div>Tracy Austin (Clinton)</div>	14
			15
			16
	<div>Monica Seles (Franklinton)</div>		

Step 3 - Sort the players into the four quarters of the draw. (continued)

D. Place the remaining players into the quarters of their respective halves of the draw.

At this point, any of the remaining players in each half can be drawn to either quarter of that half. Taking each half of the draw in turn, put the number of white and orange balls in the pot corresponding to the number of open spots in the upper and lower quarters of that half.

The coaches then draw on behalf of their players, and the players are placed in the quarter indicated by the color of the balls drawn.

In the example, in the top half of the draw, there were two open spots in the top quarter, and one open spot in the second quarter. Two white balls and one orange ball were placed in the pot, and the coaches drew on behalf of their players, as follows ...

Kim Clisters- white

Chris Evert – white

Billie Jean King – orange

Clisters and Evert were placed in the top quarter, and King was placed in the second quarter.

In the bottom half of the draw, there were one open spot in the third quarter, and two open spots in the bottom quarter. One white ball and two orange balls were placed in the pot, and the coaches drew on behalf of their players, as follows ...

Venus Williams – orange

Evonne Goolagong – orange

Monica Seles – white

Seles was placed in the third quarter, and Williams and Goolagong were placed in the bottom quarter.

See the chart on page 25 for the result at the end of Step 3.

Regional Draw Chart			
Entry List	Sorted by Halves	Sorted by Quarters	Drawn to the Bracket
		<div>#1</div> <div>Serena Williams (NCSSM)</div>	1
		<div>Maria Sharapova (Roanoke Rapids)</div>	2
		<div>Kim Clisters (Jordan-Matthews)</div>	3
		<div>Chris Evert (Clinton)</div>	4
		<div>#4</div> <div>Margaret Court (Fairmont)</div>	5
		<div>Li Na (Southern Vance)</div>	6
		<div>Lindsay Davenport (South Granville)</div>	7
		<div>Billie Jean King (St. Pauls)</div>	8
		<div>#3</div> <div>Martina Navratilova (Clinton)</div>	9
		<div>Justine Henin (Jordan-Matthews)</div>	10
		<div>Martina Hingis (Cummings)</div>	11
		<div>Monica Seles (Franklinton)</div>	12
		<div>#2</div> <div>Steffi Graf (Carrboro)</div>	13
		<div>Tracy Austin (Clinton)</div>	14
		<div>Venus Williams (NCSSM)</div>	15
		<div>Evonne Goolagong (Fairmont)</div>	16

Step 4 - Draw each quarter into the bracket.

At this point, the hard work is done. Each quarter has no more than two players from any given conference, and teammates are separated from one another as far as possible. Moreover, this stage has been reached by a random and public process, which honors the mandates from NCHSAA.

All that remains is to draw the quarters and avoid first-round intra-conference matchups.

A. Place the seeded players on the appropriate lines.

The #1 seed is placed on line 1. The #2 seed is placed on line #16. The #3 and #4 seeds are placed on lines 5 and 12, depending on which quarter they have been placed in.

In the example, Serena Williams, the #1 seed was placed on line 1. Steffi Graf, the #2 seed, was placed on line 16. Martina Navratilova, the #3 seed, was placed on line 12. And, Margaret Court, the #4 seed, was placed on line 5.

See the chart on page 27.

Regional Draw Chart			
Entry List	Sorted by Halves	Sorted by Quarters	Drawn to the Bracket
		<div>Maria Sharapova (Roanoke Rapids)</div> <div>Kim Clisters (Jordan-Matthews)</div> <div>Chris Evert (Clinton)</div>	1 <div>#1</div> <div>Serena Williams (NCSSM)</div>
			2
			3
			4
		<div>Li Na (Southern Vance)</div> <div>Lindsay Davenport (South Granville)</div> <div>Billie Jean King (St. Pauls)</div>	5 <div>#4</div> <div>Margaret Court (Fairmont)</div>
			6
			7
			8
		<div>Justine Henin (Jordan-Matthews)</div> <div>Martina Hingis (Cummings)</div> <div>Monica Seles (Franklinton)</div>	9
			10
			11
			12 <div>#3</div> <div>Martina Navratilova (Clinton)</div>
		<div>Tracy Austin (Clinton)</div> <div>Venus Williams (NCSSM)</div> <div>Evonne Goolagong (Fairmont)</div>	13
			14
			15
			16 <div>#2</div> <div>Steffi Graf (Carrboro)</div>

Step 4 - Draw each quarter into the bracket. (continued)

B. Draw the remaining players into each quarter of the bracket.

At this point, with four players in each quarter, and no more than two from any conference, there are four possibilities.

- Conference A has two players (one seeded and one unseeded), Conference B has one player (unseeded), and Conference C has one player (unseeded).

In this case, the unseeded player from Conference A goes into the pairing not occupied by her seeded fellow conference member. Draw between the players from Conference B and C into the two vacant lines in the quarter.





In the illustration, this situation occurred in the top quarter. Serena Williams, the #1 seed had been placed on line 1. Her fellow conference member, Maria Sharapova, was placed on line 3, to avoid a first-round match with a player from her own conference.

The two balls labeled “2” and “4” were placed in the pot, and the coaches drew on behalf of their players, as follows ...

Kim Clisters – 2

Chris Evert – 4

These players were placed on those lines, as shown in the chart on page 29.

Regional Draw Chart			
Entry List	Sorted by Halves	Sorted by Quarters	Drawn to the Bracket
			1  <i>Serena Williams</i> (NCSSM)
			2 <i>Kim Clisters</i> (Jordan-Matthews)
			3 <i>Maria Sharapova</i> (Roanoke Rapids)
			4 <i>Chris Evert</i> (Clinton)
		<i>Li Na</i> (Southern Vance) <i>Lindsay Davenport</i> (South Granville) <i>Billie Jean King</i> (St. Pauls)	5  <i>Margaret Court</i> (Fairmont)
			6
			7
			8
		<i>Justine Henin</i> (Jordan-Matthews) <i>Martina Hingis</i> (Cummings) <i>Monica Seles</i> (Franklinton)	9
			10
			11
			12  <i>Martina Navratilova</i> (Clinton)
		<i>Tracy Austin</i> (Clinton) <i>Venus Williams</i> (NCSSM) <i>Evonne Goolagong</i> (Fairmont)	13
			14
			15
			16  <i>Steffi Graf</i> (Carrboro)

Step 4 - Draw each quarter into the bracket. (continued)

B. Draw the remaining players into each quarter of the bracket. (continued)

- Conference A has two players (one seeded, one unseeded) and Conference B has two players (both unseeded).

In this case, place the unseeded player from Conference A in the pairing that does not contain the seeded player. Draw between the two members of Conference B into the two vacant lines in the quarter.

In the example, this situation was found in the second quarter of the draw.





Margaret Court, the #4 seed, had already been placed on line 5. Billie Jean King, from the same conference, was placed on line 7.

The balls labeled “6” and “8” were placed in the pot, and the coaches drew on behalf of the remaining players, as follows ...

Li Na – 8

Lindsay Davenport – 6

These players were placed on the lines indicated, as shown on the chart on page 31.

Regional Draw Chart			
Entry List	Sorted by Halves	Sorted by Quarters	Drawn to the Bracket
			1  <i>Serena Williams</i> (NCSSM)
			2 <i>Kim Clisters</i> (Jordan-Matthews)
			3 <i>Maria Sharapova</i> (Roanoke Rapids)
			4 <i>Chris Evert</i> (Clinton)
			5  <i>Margaret Court</i> (Fairmont)
			6 <i>Lindsay Davenport</i> (South Granville)
			7 <i>Billie Jean King</i> (St. Pauls)
			8 <i>Li Na</i> (Southern Vance)
			9
			10 <i>Justine Henin</i> (Jordan-Matthews)
			11 <i>Martina Hingis</i> (Cummings)
			12  <i>Martina Navratilova</i> (Clinton)
			13
			14 <i>Tracy Austin</i> (Clinton)
			15 <i>Venus Williams</i> (NCSSM)
			16  <i>Steffi Graf</i> (Carrboro)

Step 4 - Draw each quarter into the bracket. (continued)

B. Draw the remaining players into each quarter of the bracket. (continued)

- Conference A has two players (both unseeded), Conference B has one player (seeded), and Conference C has one player (unseeded).

In this case, place the player from Conference C in the pairing that does not contain the seeded player. Draw between the two players in Conference A into the two remaining vacant lines in the quarter.

In the illustration, this situation was found in the third quarter.





Martina Navratilova, the #3 seed, had been placed on line 12. There are two unseeded members of the Mid-State conference (yellow) yet to be drawn to this quarter. Since they both cannot occupy lines 9 and 10, Monica Seles, from the Northern Carolina conference, was placed on line 10.

The balls labeled “9” and “11” were placed in the pot, and the coaches drew on behalf of their players as follows ...

Justine Henin – line 9

Martina Hingis – line 11

These players were placed on the lines indicated, as shown on the chart on page 33.

Regional Draw Chart			
Entry List	Sorted by Halves	Sorted by Quarters	Drawn to the Bracket
			1  <i>Serena Williams</i> (NCSSM)
			2 <i>Kim Clisters</i> (Jordan-Matthews)
			3 <i>Maria Sharapova</i> (Roanoke Rapids)
			4 <i>Chris Evert</i> (Clinton)
			5  <i>Margaret Court</i> (Fairmont)
			6 <i>Lindsay Davenport</i> (South Granville)
			7 <i>Billie Jean King</i> (St. Pauls)
			8 <i>Li Na</i> (Southern Vance)
			9 <i>Justine Henin</i> (Jordan-Matthews)
			10 <i>Monica Seles</i> (Franklinton)
			11 <i>Martina Hingis</i> (Cummings)
			12  <i>Martina Navratilova</i> (Clinton)
		<div><i>Tracy Austin</i> (Clinton)</div> <div><i>Venus Williams</i> (NCSSM)</div> <div><i>Evonne Goolagong</i> (Fairmont)</div>	13
			14
			15
			16  <i>Steffi Graf</i> (Carrboro)

Step 4 - Draw each quarter into the bracket. (continued)

B. Draw the remaining players into each quarter of the bracket. (continued)

- Conference A has one player (seeded) and Conferences B, C, and D all have one player each (unseeded).

In this case, the three unseeded players are simply drawn to the three vacant lines in the quarter.

In the example, this situation was found in the fourth quarter.

Steffi Graf, the #2 seed, had been placed on line 16. The three remaining players were all from other conferences, meaning that any pairing among them would be valid.

The balls labeled “13”, “14”, and “15” were placed in the pot, and the coaches drew on behalf of their players, as follows ...





Tracy Austin – 15

Venus Williams – 13

Evonne Goolagong - 14

These players were placed on the lines indicated by the balls drawn, as shown on the chart on page 36.

At this point, the draw is complete, and the players’ names can be transferred to the tournament bracket.

Regional Draw Chart			
Entry List	Sorted by Halves	Sorted by Quarters	Drawn to the Bracket
			1  <i>Serena Williams</i> (NCSSM)
			2 <i>Kim Clisters</i> (Jordan-Matthews)
			3 <i>Maria Sharapova</i> (Roanoke Rapids)
			4 <i>Chris Evert</i> (Clinton)
			5  <i>Margaret Court</i> (Fairmont)
			6 <i>Lindsay Davenport</i> (South Granville)
			7 <i>Billie Jean King</i> (St. Pauls)
			8 <i>Li Na</i> (Southern Vance)
			9 <i>Justine Henin</i> (Jordan-Matthews)
			10 <i>Monica Seles</i> (Franklinton)
			11 <i>Martina Hingis</i> (Cummings)
			12  <i>Martina Navratilova</i> (Clinton)
			13 <i>Venus Williams</i> (NCSSM)
			14 <i>Evonne Goolagong</i> (Fairmont)
			15 <i>Tracy Austin</i> (Clinton)
			16  <i>Steffi Graf</i> (Carrboro)

Summary

The process involves four steps ...

1. Determine the seeds
2. Sort into two halves.
3. Sort into four quarters.
4. Assign players to bracket lines.

Each step works the same way, with the NCHSAA guidelines observed in the order of their importance.

- Seeds
- Teammates
- Conference Members

During each step, once the guidelines were satisfied, the remaining actions were done by a random draw. No player was ever “moved” once she was drawn to a half, quarter, or line, to reserve a spot for someone yet to be drawn.

The use of the chart and the post-it notes allows all the coaches to observe the process step-by-step.

The result is a bracket that has teammates in opposite halves of the draw, unless they were part of a three-member entry, in which case, they are all in different quarters. There are no first-round intra-conference matches.

Moreover, the bracket was arrived at randomly. If the process were to be done over again, with the same set of entries, the various draws would produce an entirely different result, but one which still meets the guidelines.

It was done on the first attempt, in a time frame that is conducive to a one-hour coaches meeting.

And, the process can be replicated to work with any combination of conferences, teams, and entries.