

When Bowlology was founded in November of 2011, the Josh Hyde's Bowling Newsletter wanted to give bowlers some knowledge of the sport. These spare- strike pillars are essential to Bowlology in that they are the four pillars that a bowlologist will need in order to help bowlers, coaches, and pro-shop operators.

--The First Pillar is Knowledge of the Sport which involves split making, makeable splits, lane courtesy, the perfect strike, score-keeping, playing field, pin knowledge, pin carry, and general bowling knowledge.

--The Second Pillar is the Physical Game. If a bowler does not have a solid foundation, he or she is not going to be able to execute in every frame. Timing puts away the trail leg, the finish position, and the arm swing. These are the main attributes of a bowler's physical game.

--The Third Pillar is Lane Play which is how the bowler plays the lanes making hand position and speed adjustments. In most sports, the athletes are not going to have to worry about the surface of the field. However, in bowling, bowlers do have to know what the lanes are doing in order to be a contender in a league match. The same holds true when Jason Belmonte needs a strike to win the U.S Open. Lane play is a big portion of a bowler's game.

--The Final Pillar is Ball Dynamics. This is where the bowler and the pro-shop operator need to be on the same page. Each bowler is different. If a pro bowler wins a Major and Joe Bowler wants to use the same ball with the same layout and surface, more than likely Joe Bowler will not have the same results as the pro bowler due to differences in their game. They may use the same ball except with a different layout and surface. This is why it is so important for the pro-shop operator to know Joe Bowler's game. Pro-shop operators generally know the dynamics of the bowling ball. Ideally, the bowler needs to find a pro-shop operator that has some coaching experience. If he/she has a pro-shop operator and a coach, all three need to come up with a game plan so that the bowler can be successful on the lanes.

These four Bowlology Spare-Strike Pillars will enable bowlers, coaches, and pro-shop operators to identify bowling knowledge.

Bowlologist Problem-Solving Chart

<u>Open</u>	<u>Spare</u>	<u>Strike</u>
Bowler falls off balance at the foul line	Physical Game	Frame 2
Bowler cannot identify his PAP	Ball Dynamics	Frame 3
Bowler is muscling the ball	Physical Game	Frame 2
Bowler is not choosing the right ball	Lane Play and/or Ball Dynamics	Frames 3 thru 5
Bowler misses spares	Knowledge of the Sport	Frame 1
Bowler is not using the correct surface on the ball	Ball Dynamics	Frame 3 & 5
Bowler is not reading the lanes right	Lane Play	Frame 4
Bowler is using the wrong layout	Ball Dynamics	Frame 3
Bowler is playing in the wrong area on the lane	Lane Play	Frame 4
Bowler is leaving the ten pin and is unable to string strikes	Lane Play	Frame 4
Bowler fails to acknowledge bowlers on adjacent lanes	Knowledge of the Sport	Frame 1
Bowler stands in the same spot every frame and does not adjust	Lane Play	Frame 4
Bowler bowls well on specific pattern but has trouble bowling on other patterns	Lane Play	Frame 4
Bowler misses double wood spares	Knowledge of the Sport	Frame 1

This chart is for Bowlologists to use as a reference to help other bowlers.

The "Open" represents the problem.

The "Spare" represents the four key areas - Knowledge of the Sport, Physical Game, Ball Dynamics and Lane Play.

The "Strike" refers to the specific frame(s) in the Bowlology book.

Pin Carry

Pin carry is an essential part of a bowler's score. If there is no pin carry, more than likely a bowler's score is going to be lower. If a bowler can carry, however, his score will reflect that.

In the first Bowlology that I wrote, I discussed the perfect strike. There are five categories of strikes. The perfect strike is the Solid Pocket where the ball takes out the 1-3-5-9 pins. The ball will exit the pin deck left of the 9. The second type of strike is the Light Pocket where the ball hits the 3 pin and exits right of the 9 pin. This is where Billy Welu came up with the phrase "hit them thin and watch them spin." The third type of strike is the High Pocket. The ball will be more toward the head pin and exit left of the pin deck for a right handed player. The fourth type is the Brooklyn which is when the ball crosses over and hits 1-2 for a right-hander. For a left-hander, a Brooklyn strike would be when the ball crosses over and hits the 1-3.

There are three factors regarding the lane that influence pin carry: 1) pin deck, 2) kickback plate, and 3) flat gutter. The pin deck material will have the most effect on pin carry. The kickback plate has the second most effect on pin carry which is caused by the pins flying out and taking out pins that are still standing. Believe it or not, the flat gutter has the least effect on pin carry even though bowling fans see pins coming out of the gutter to take out other pins all the time. With the flat gutter, it is harder for the pins to come out. The lane will tend to be higher than a flat gutter. With regular gutters, pins will more likely be able to take out other pins by bouncing out of the gutter than in a flat gutter.

Another factor that affects pin carry is lofting. A way to practice this is by putting a towel out about a foot past the foul line, and throwing the ball over the towel. This will give the bowler more loft, and he/she will be able to carry more of the corner pins.

The name of the game is pin carry. This will help bowlers not leave as many ringing ten pins (or ringing seven pins for the left handed bowler). If bowlers are able to carry more, there scores will dramatically go up from a 2-0 game to a 240 or 250 game. This is how bowlers are able to carry more.



Axis Rotation

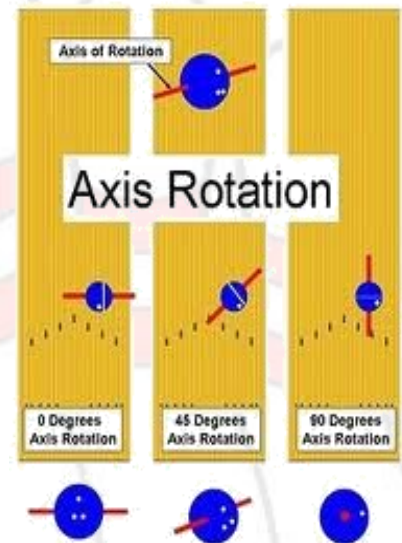
This topic will be on axis rotation, which is the horizontal measure of the angle of the ball's revolutions. Closely associated, and often confused with axis rotation, is axis tilt. Axis tilt is defined as the vertical angle at which the ball rotates. I will cover axis tilt in the November newsletter.

The release position of the fingers dictates the amount of axis rotation, known also as side roll. A 0-degree axis rotation is when the fingers exit the ball at a 6 o'clock position, and the ball rolls end-over-end. This creates minimal or no hook.

If the fingers exit the ball at the 3 o'clock position, the result will be a 90-degree axis rotation. This will introduce more hook.

Right-handed bowlers rotate their hand at release in a counter-clockwise motion; while left-handers release the ball in a clockwise motion.

Most bowlers have a release somewhere in between 0-90 degrees. The half-way point would be 45 degrees which is considered the most versatile release position. As a bowler, knowing the



Axis Tilt

Axis tilt is the vertical angle at which the ball rotates prompting the ball to skid as it rolls down the lane. As a result, backend hook potential is reduced.

As the bowler watches the ball go down the lane, the bowler will see the opposite in axis rotation and tilt to what you see on paper regarding the vertical and horizontal axis. The more tilt the bowler employs, the more spin he creates on the ball.

Axis tilt will be bad if the ball track is further from the finger holes. Axis tilt is created by either cocking or collapsing the wrist at release.

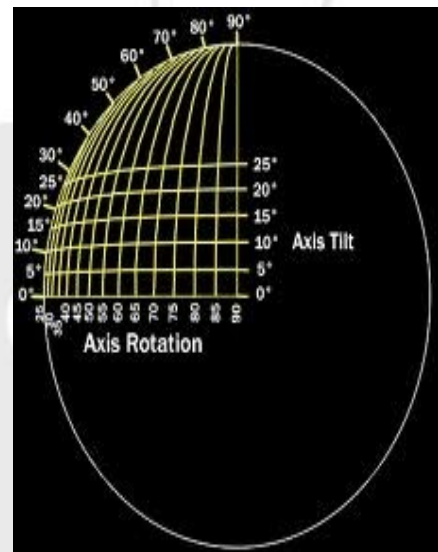
At 90 degrees, the axis will be straight up. At zero degrees the axis is on the horizontal plane.

The higher the tilt the smaller the ball will track and the longer the ball will go down the lane before hooking. The lower the tilt the larger the ball track and the sooner the ball will hook on the lane.

A bowler can change their axis tilt by releasing the ball in different ways. If the bowler overturns the ball it will spin like a top. However if the bowler releases where the thumb comes out first, then the ball will have a chance to react like it is supposed to.

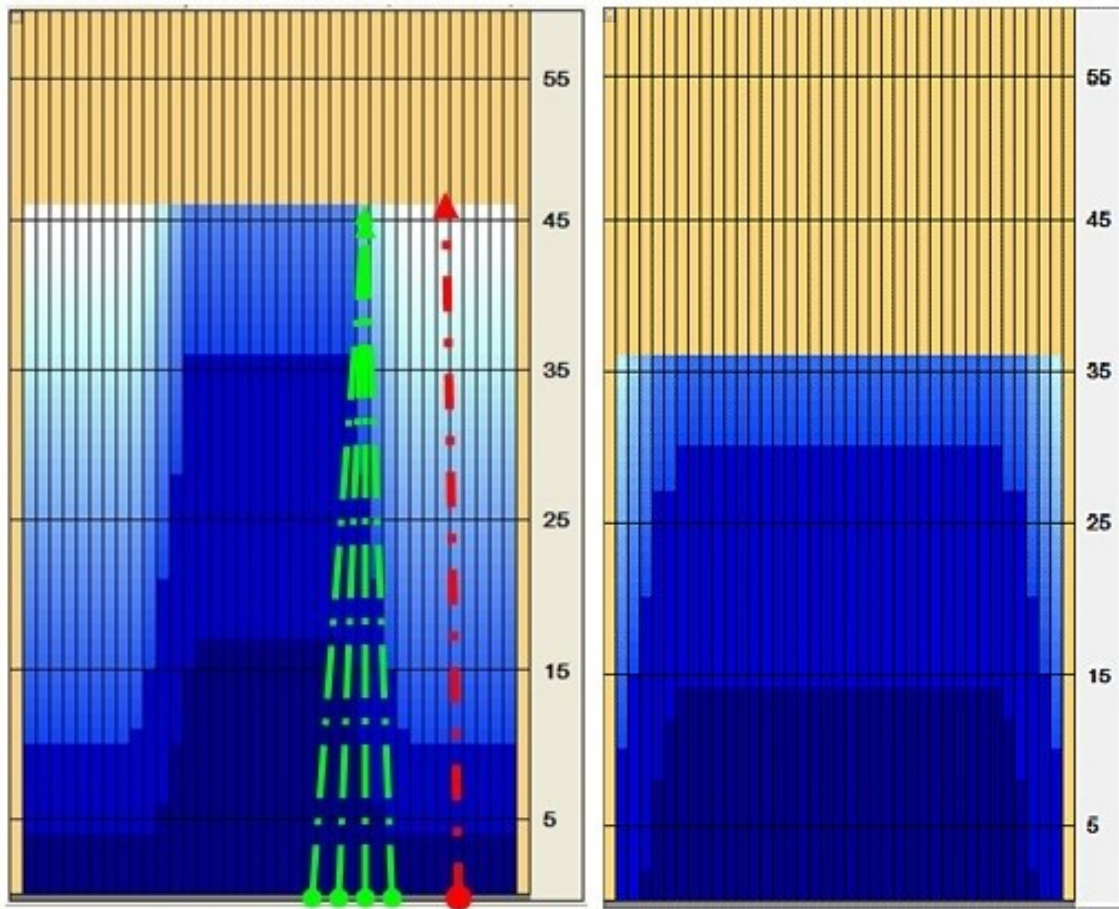
When the bowler is looking at axis tilt on paper and on the lane it looks different. On paper it is one dimensional and the lane is three dimensional.

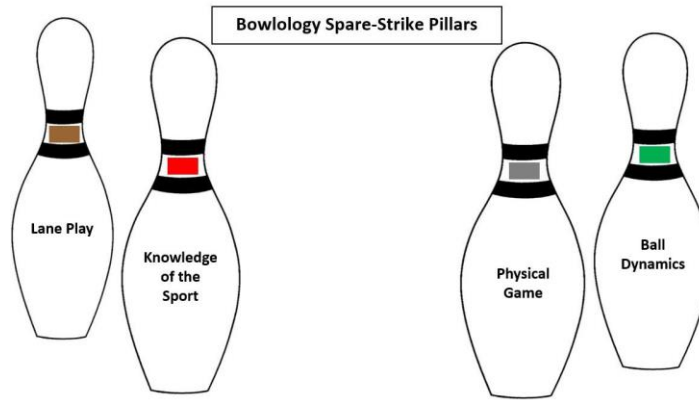
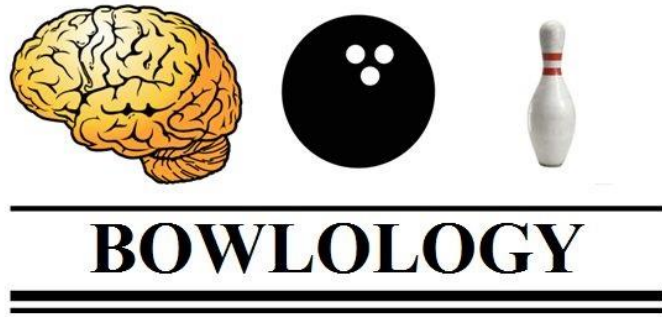
The diagram above indicates the degrees of axis tilt and axis rotation that a bowler can have. Tilt is vertical and axis rotation is horizontal.



Bowling is a Surface Sport

Bowling is a sport where outcomes are dependent on a surface. The more friction the lane has, the more the ball can hook. The less surface a bowler has on the lane, the less the ball can hook. In sports where, the balls are in the air as soon as the ball sees the friction, it is going to hook. Surface dictates how the ball is going to react on the lane. The longer the oil on the lane is, the longer the ball will not see the friction. As soon as the ball can get into a roll or see the friction, the bowling ball will be able to hook. Bowlers are allowed to change surfaces on their ball prior to competition. This will help the bowler's ball to have more or less surface, therefore it is able to hook sooner or less if desired. The less surface that a ball has, the more it will go down the lane and will not be able to hook. When the oil is longer on the lane surface, a bowler's ball is not able to see the surface, and will not hook until it sees the friction on the lane. Surface is a major factor in the sport of bowling.





Bowlology Academy Presents: Spare Strike Pillars

THIS SEMINAR WILL ENABLE BOWLERS, COACHES, PRO-SHOP OPERATORS TO IDENTIFY BOWLING KNOWLEDGE WITH THE BOWLOLOGY SPARE STRIKE PILLARS. BY JOSH HYDE, BLP

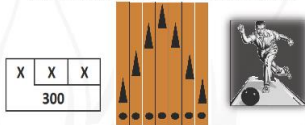


BOWLOLOGY

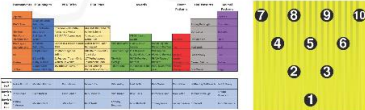
By Bowlologist Joshua A. Hyde, BLP

USBC Silver Certified Coach

Balls + Lanes + Pins = Bowling 39" x 60" = Dimensions of the Lane



"Bowlology"—the study of bowling with the desired result being that the student gains more knowledge of and more respect for the sport.



Volume 12, Issue 4

February 2019

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IBMA

PBA Honorary Member since 2003 Member since 2005

Messenger

Jones, Glaser and Slade 2020 PBA Hall of Fame Class

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There were three inductions into the PBA Hall of Fame, Rob Glaser, Mike Slade, and Tommy Jones. Both Mike and Rob were inducted for the meritorious service as they were both a key part of purchasing the PBA tour in 2000 with Chris Peters. Mike and Rob were both Microsoft ex-employees. All three of these individuals brought the PBA for 5 million dollars. They saved the PBA tour from bankruptcy. Mike who had designed the websites for ESPN, NASCAR, and the NFL, was a major part of developing the PBA website. He also would make a television contract with ESPN to have bowling in primetime. Rob Glaser had the strategy for the PBA and brought in some major leadership. Rob Glaser had previous experience in the bowling industry even though it was in a league when he was a child. During his acceptance speech stated "that when you are around people who are the best it's really inspiring"

Tommy was the only superior performance in this year's PBA Hall of Fame. He had 19 PBA titles including 2 Majors. In 2006 he captured the US Open and the 2007 Tournament of Champions. He is also one of the 5 players to earn both Player of the Year Award and Rookie of the Year honors. Tommy joined Mike Durbin the following day as the only player to win the tournament when he was inducted to the PBA Hall of Fame.



From left to right 2020 PBA Hall of Fame inductees

Mike Slade, Rob Glaser, and Tommy Jones



*The Professional Bowlers Association, LLC ("PBA") is not affiliated with any major U.S. Bowling Association. The opinions and positions are those of the PBA.

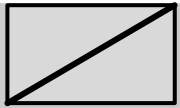
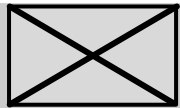
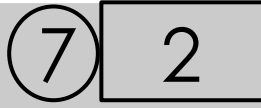


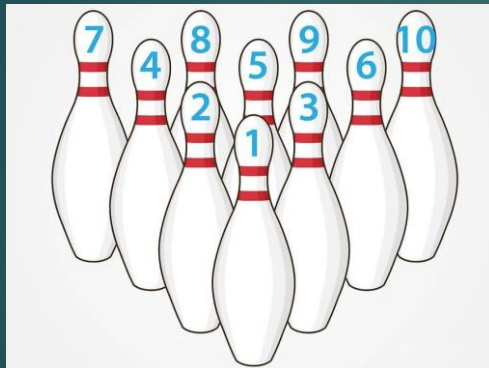
2015 MEDIA KIT

Presented by:
























KNOWLEDGE OF THE SPORT

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20	39	48

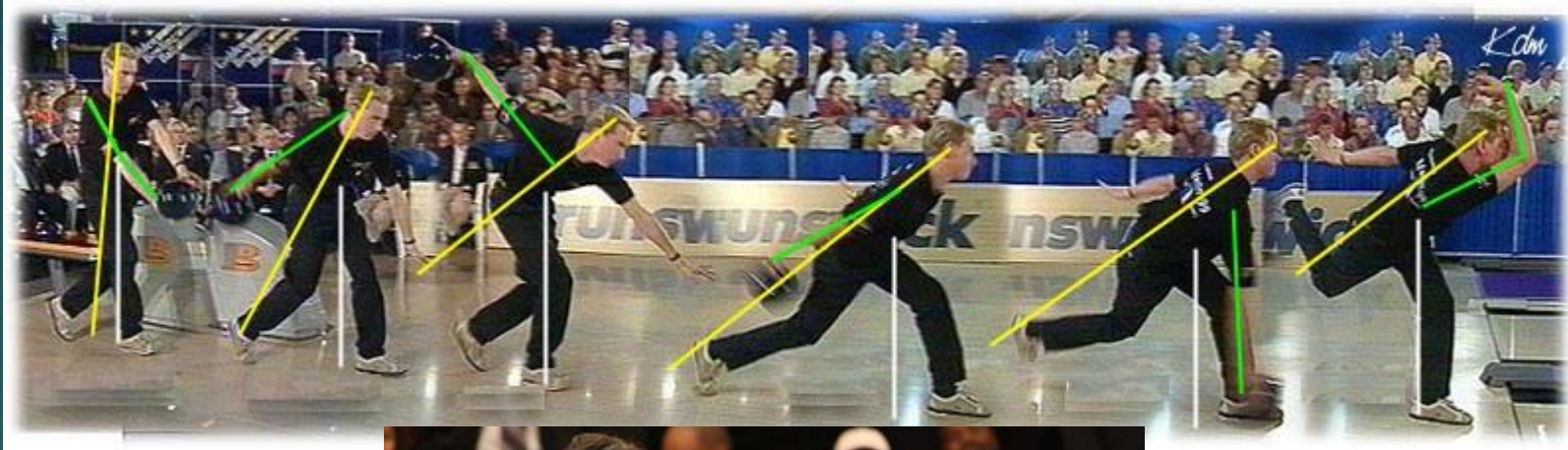


Right Handed						
35	30	25	20	15	10	5
Left Handed						
5	10	15	20	25	30	35

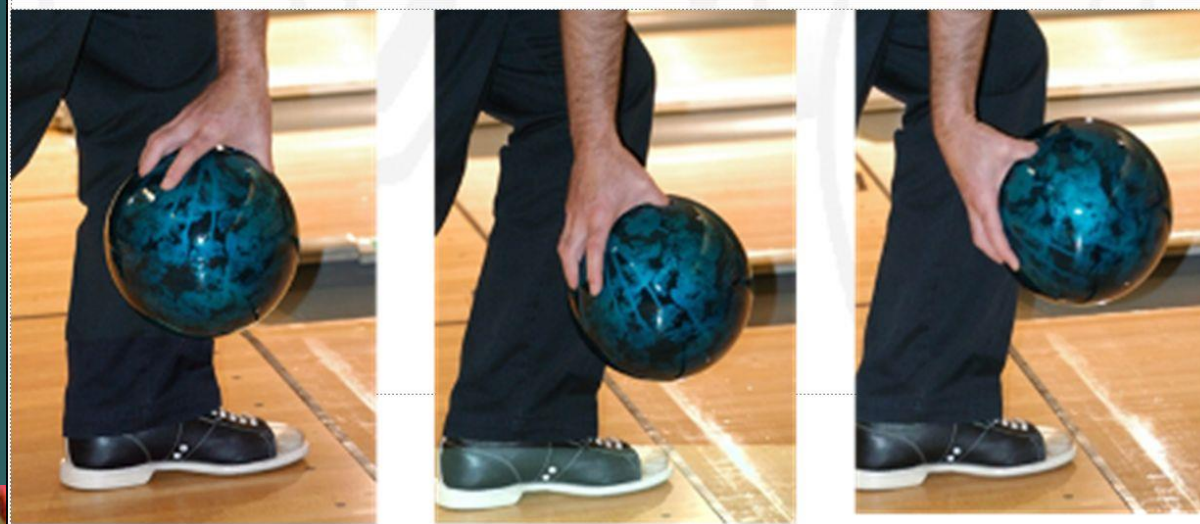


Right Hand			
Spare	Diagram	Move	Target
2-4-5		3 Boards Right	Aim between the 2nd and 3rd arrow
1-2-8		2 Boards Right	Aim between the 2nd and 3rd arrow
2-4-8		3 Boards Right	Aim between the 2nd and 3rd arrow
4-7-8		5 Boards Right	Aim between the 2nd and 3rd arrow
3-6-9		6 Boards Left	Aim between the 2nd and 3rd arrow
3-6-10		6 Boards Left	Aim between the 2nd and 3rd arrow
6-9-10		8 Boards Left	Aim between the 2nd and 3rd arrow
1-5		Strike Shot	Aim between the 2nd and 3rd arrow
2-4		5 Boards Right	Aim between the 2nd and 3rd arrow
2-8		3 Boards Right	Aim between the 2nd and 3rd arrow
3-6		5 Boards Left	Aim between the 2nd and 3rd arrow
4-7		8 Boards Right	Aim between the 2nd and 3rd arrow
4-8		6 Boards Right	Aim between the 2nd and 3rd arrow
5-8		1 Board Right	Aim between the 2nd and 3rd arrow
5-9		Strike Shot	Aim between the 2nd and 3rd arrow
6-10		10 Boards Left	Aim between the 2nd and 3rd arrow
1-2-4-5		5 Boards Right	Aim between the 2nd and 3rd arrow
1-2-4-7		6 Boards Right	Aim between the 2nd and 3rd arrow
1-2-4-8		6 Boards Right	Aim between the 2nd and 3rd arrow
2-4-5-8		3 Boards Right	Aim between the 2nd and 3rd arrow
3-6-9-10		6 Boards Left	Aim between the 2nd and 3rd arrow

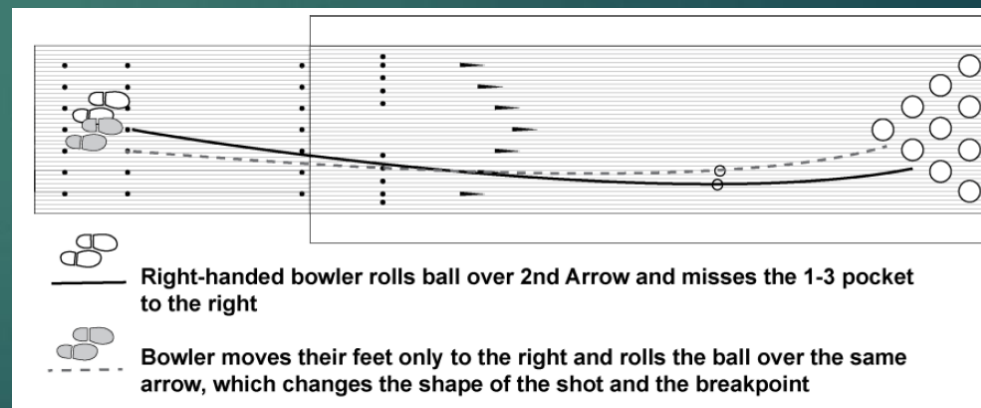
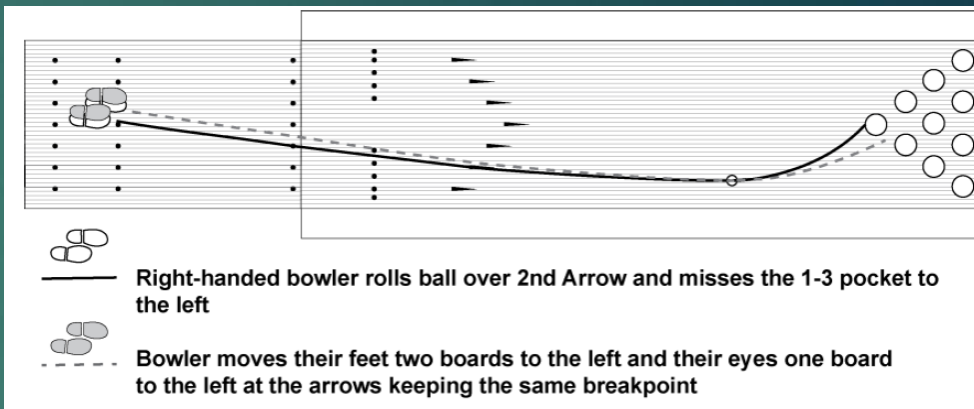
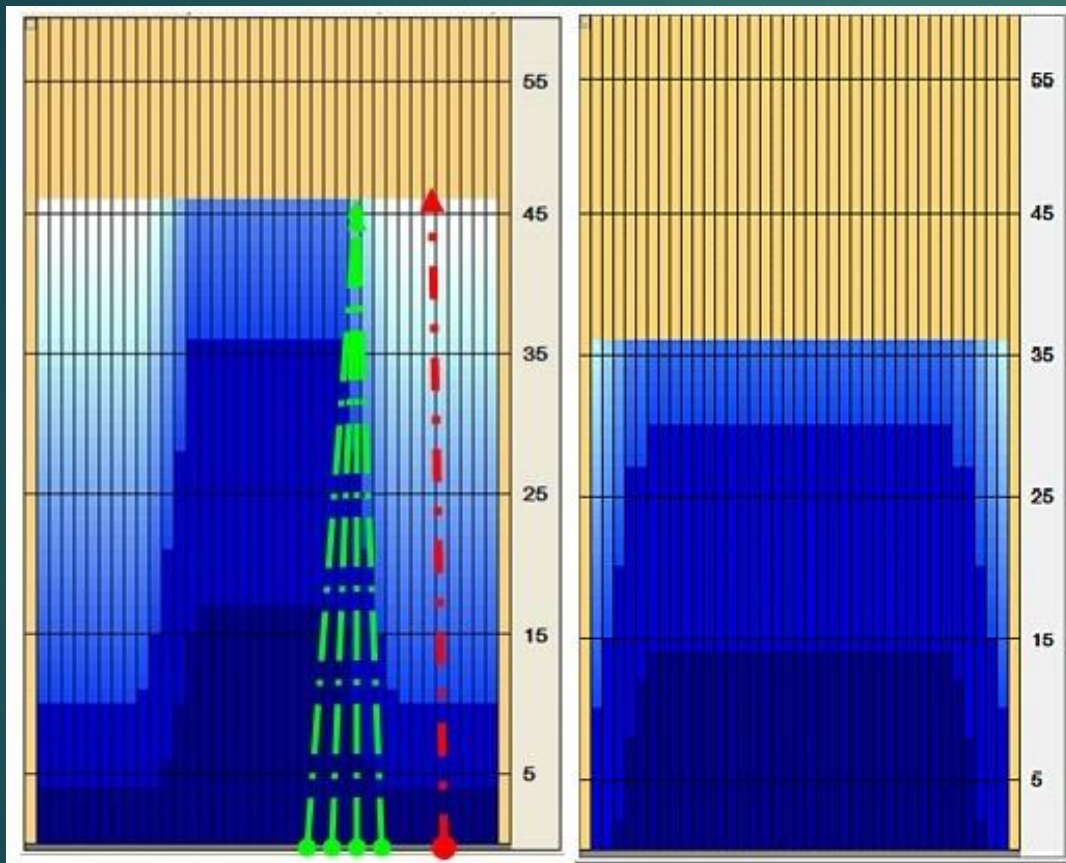
PHYSICAL GAME



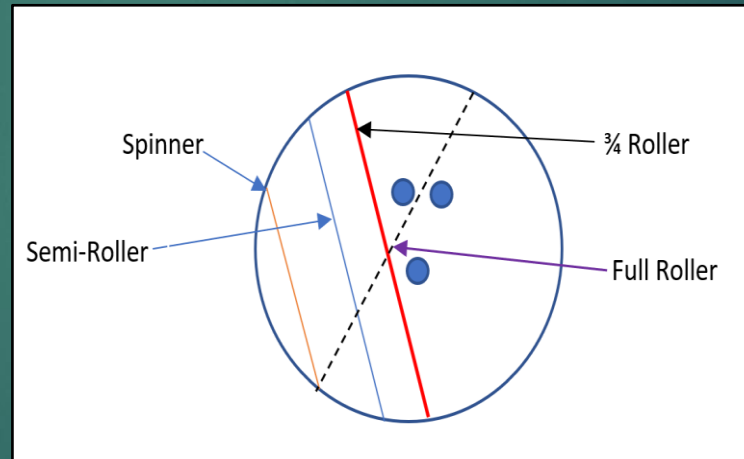
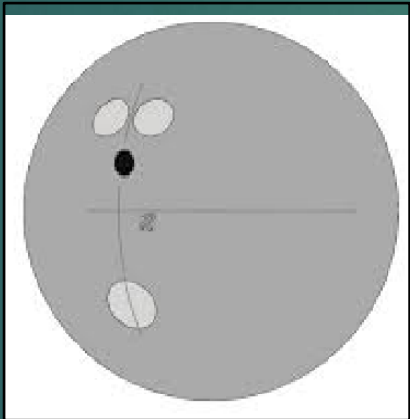
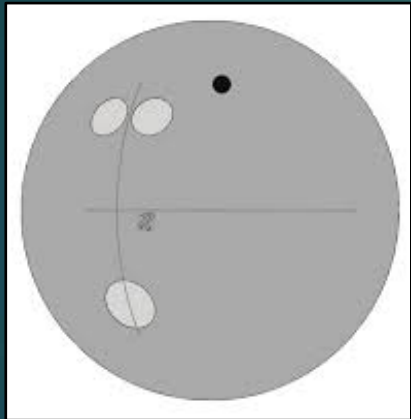
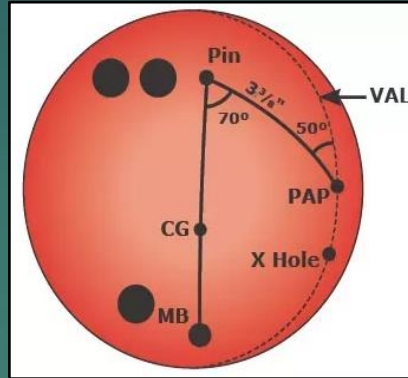
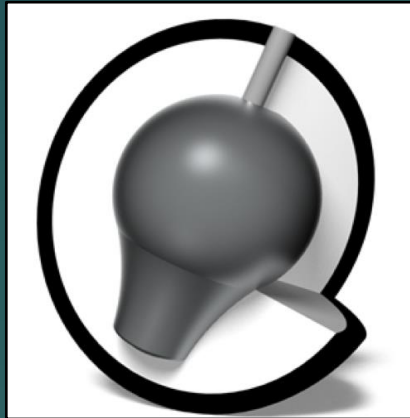
PHYSICAL GAME



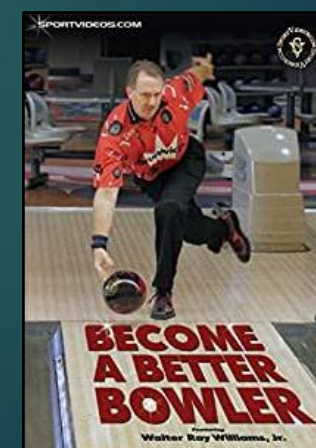
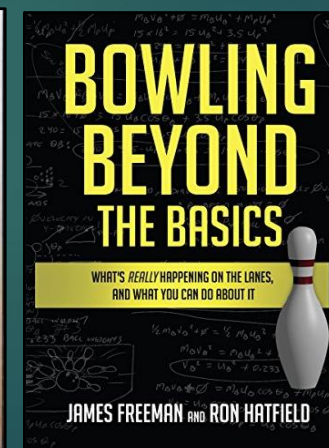
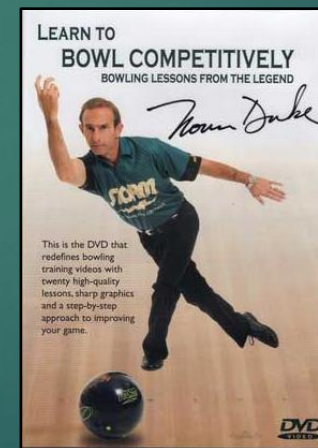
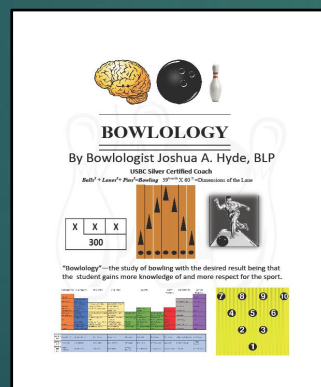
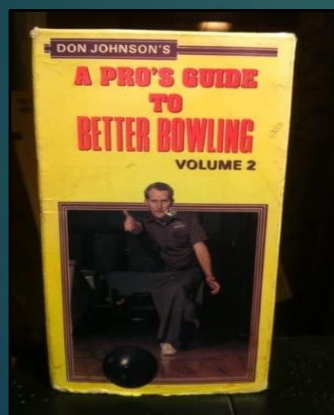
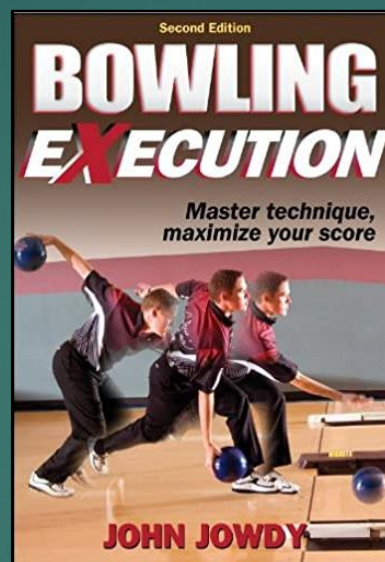
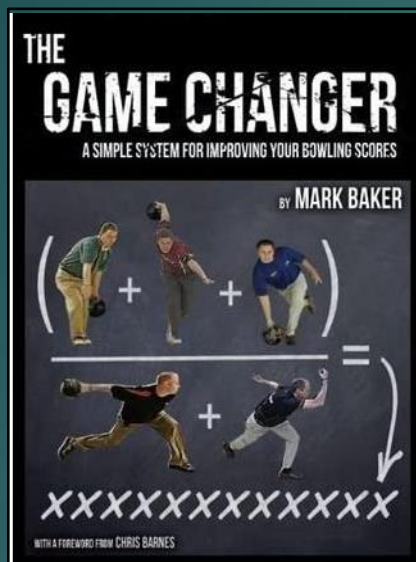
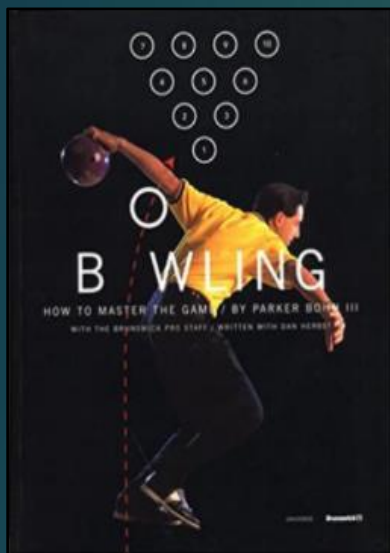
LANE PLAY



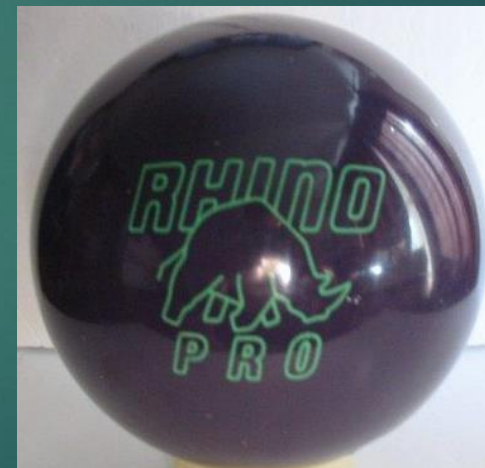
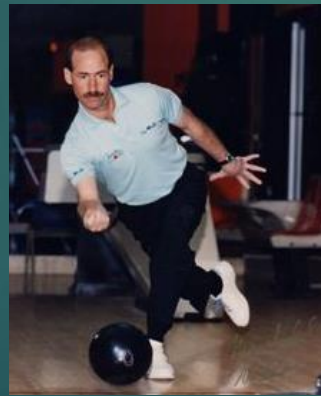
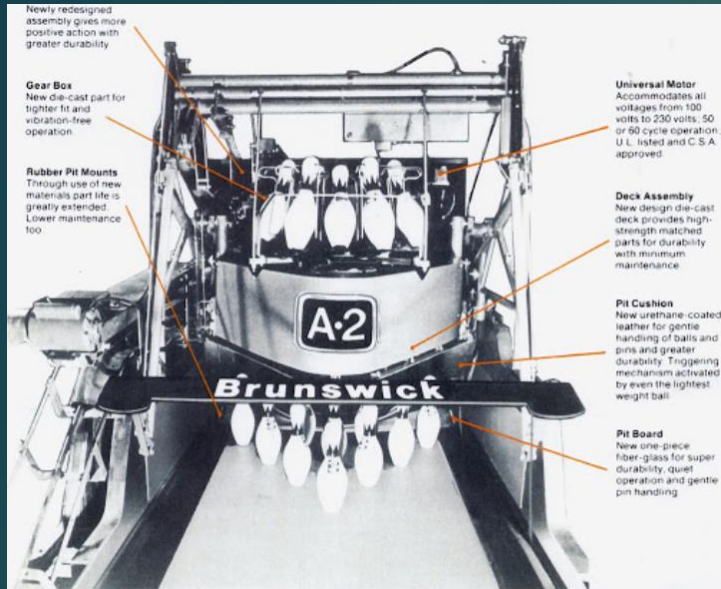
BALL DYNAMICS



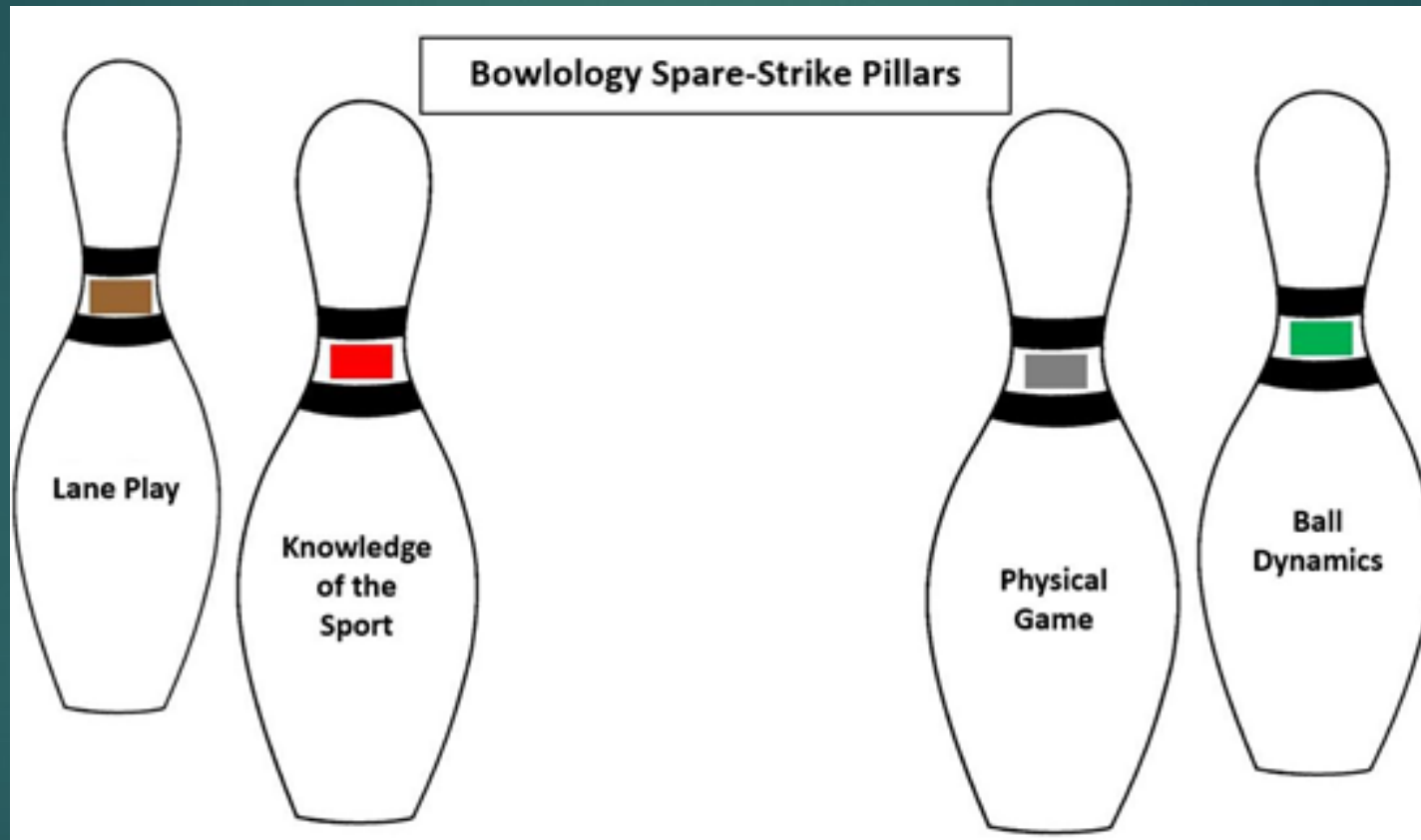
GREATEST MINDS OF BOWLING

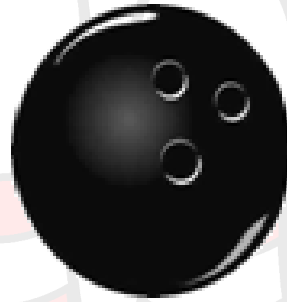
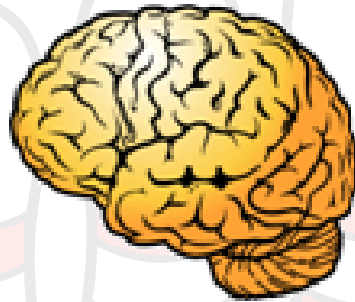


BOWLING INNOVATIONS



Bowlology Spare Strike Pillars





BOWLOLOGY

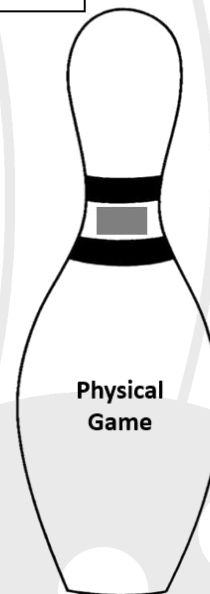
Bowlology Spare-Strike Pillars



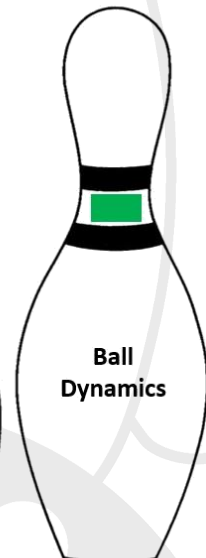
Lane Play



Knowledge
of the
Sport



Physical
Game



Ball
Dynamics

Bowlology Presents:
Bowlology Academy Overview, Fact Sheets & Exams
This program will enable bowlers, coaches,
pro-shop operators to identify bowling knowledge

By Bowlologist Josh Hyde B.L.P
USBC Silver Coach



Knowledge of the Sport

This may sound elementary; however bowlers do not know what they think they know. Some do not even now how to keep score, some do not even know what pins they even left. When they leave a spare. The knowledge of the sport is the foundation to have a great mind in bowling. If a person does not even know what pins they left when they shot a 299, this shows they are not even on an amateur level. The knowledge of the sport is the foundation in helping bowlers to improve in their game. Keeping score in bowling was one of the biggest challenge to learn. As I got better, I thought as if I could absorb bowling knowledge like a sponge. To be a pro-bowler pros know what they need to do when they win a game for a title or to advance to the

Physical Game

One-fifth of the lanes is the approach this is where the bowler has to put their position to execute properly so they can win a pot game or a small tournament at their bowling center. The text-book style is a good place to start but as a bowler wants to advance their game. They need to work on fundamentals and one advanced move that they can think can do. Timing in a text-book is moving the ball and the feet at the same time. For a pro-bowler this may not be the case. They are more advanced at the game than what the average Joe Bowler is doing with bowling three games a week and a sweeper here and there. Some fundamentals that bowlers see from the pros in their game are textbook like while others are what an experienced and talented pro would do. Coaches would not want their students to emulate what the pros are doing right off the bat as a student needs to learn the basics and how they react on the lanes. The textbook style with a four-step approach would be 1,1,2,2,3,3,4,4. This is an easy way to teach the first-time bowler as the coaches get more advanced. They need to work with what the bowler has and try to help them critique their style of play.

Lane Play

Bowling is a surface sport. Bowlers are going to have to adjust in their league or tournament play. There are all kinds of adjustments, such as hand position changes, that a bowler can make during lane transition. If they expect the lane to remain the same during a game in league or tournament play, they are sadly mistaken. If bowlers know how to play lanes throughout the course of the block, they might have a leg up on the field in tournament play or league. However, if they do not know how to adjust on the lane, they will be at a disadvantage. Smart lane play helps a bowler know what to do when he/she runs into a difficult situation.

Ball Dynamics

In ball dynamics there are a number of layouts that a pro-shop operator can use. In the past bowlers have been told that a pin-down ball will read the lanes earlier. A pin-up will read the lanes later. This is true however bowlers need to rethink as a pin up or pin-down as the delaying or making the breakpoint sooner. Bowlers need to keep in mind that the surface of the ball is more important as to the layout of the ball. There are three types of bowlers the spinner, three quarters and the full roller. Pro-shop operators need to know the bowler's positive axis point to be able to suggest a ball that a bowler could buy. If a bowler has a pin-up ball but is sanded to 1500 the ball is going to read earlier. Vice versa if a bowler has a pin down ball but is polished the ball is going to react later. Since it is polished both balls will still read earlier or later depending the bowlers PAP. In developing an arsenal this is important to know. How many asymmetrical and symmetrical does the bowler want to have.

Spare Strike Pillars

A bowler who applies these four pillars during a tournament or a league will have success. Knowledge of the sport is the foundation of the sport itself. The physical game is also important because the bowler has twenty percent of the lane in which he or she will execute every frame. Lane play is a factor because if the bowler can read their ball on the lane, they will know what adjustments are needed. Ball dynamics are essential to the bowler. The bowler and the pro-shop operator must be on the same page. This will give the bowler a leg up on their competition. These four pillars properly followed can maximize a bowler's game. Bowlers, coaches, and pro-shop operators should have a high degree of understanding of these pillars to be successful on and off the lane.

Greatest Minds of Bowling

These individuals have studied the game with great detail. This cannot be stressed enough. The Bowlology spare strike pillars are the essentials of the game to become one of the greatest minds of bowling. All of these individuals know these four key areas of the sport. Some of these leaders have contributed to the USBC coaching manuals for the Bronze, Silver and Gold certifications. The second bowler that completed the Triple Crown was Johnny Petraglia. Parker Bohn III has made the statement about Johnny being the smartest person in bowling. Brunswick named a ball after him. Glenn Allison said that Bill Taylor was the smartest person in bowling. These individuals have studied the sport and have made bowlers bowl better. David Ozio talked with Bill Taylor one day. The next day, Ozio went to the bowling center and thought about what he and Bill had discussed. He sat down at the settee area and he came to the realization with what Bill had said totally made perfect sense. Bill Taylor was not a big fan of the new bowling ball technology. However, during the late 70s, he wrote a book entitled **Balance**. The book described how bowlers could drill balls like they do today. He also explained ball reaction in this book. Taylor also came up with the idea of the oil-less lane.

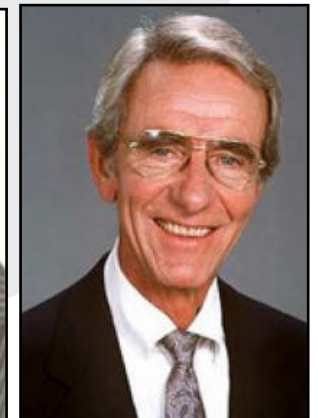
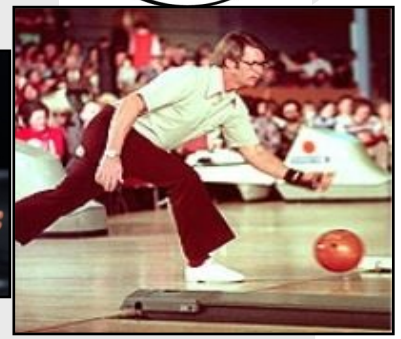
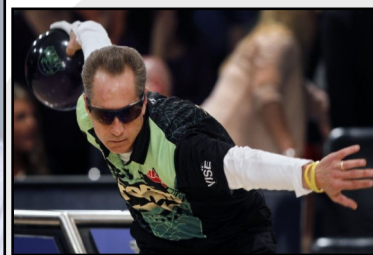
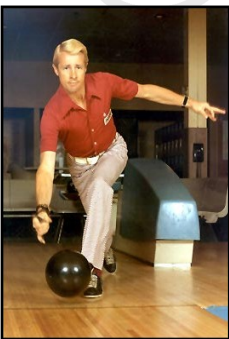
Bowling Innovations

Back in the 1800s, bowlers yearned for more hook out of their ball. Balls were made out of wood back then. To get more hook, they would actually cut the ball in half and put a block of wood (referred to as the "DoDo") in the ball. These balls would hook more resulting in bowlers shooting higher scores. They would invent a dodo scale to find the counterfeit balls that bowlers tried to sneak in. In 1903, they would outlaw the DoDo ball. In 1973, Don McCune would soak his ball in MEK. This would make the ball hook more on the lane. He would win six PBA Tour Titles to become the Player of the Year. McCune revolutionized the game of bowling. Mark Roth and Marshall Holman created the modern power game. Roth & Holman were the first ones to hook the entire lane with the Columbia 300 Yellow Dot. Roth would go straight and hard at the spares. It was a different game back in the 70s. It is getting to be less of a challenge for a bowler to struggle. Bowlers still have to make a delivery on the lane. The ball is not striking on its own. Bowlers today want to drill up the same layout that Jason Belmonte used at the 2020 U.S. Open. This layout may not work out for Joe Bowler because he does not throw the ball like Belmonte. It is important that pro-shop operators & coaches work together to help the Joe Bowlers understand what is needed to attack the lane in order to win a Mega buck scratch tournament or to cash in a PBA Regional Tournament. Joe Bowler may have the same ball that Belmonte used to win his first U.S. Open title; however, it may not be drilled the same way. The coach and the pro-shop operator need to stress to Joe Bowler that he does not need the same layout as Belmonte. Jason Belmonte has revolutionized the sport of bowling, most notably the two-handed ball release. Winning 13 majors on the PBA Tour and becoming the second player to complete the Super Slam is an amazing feat in and of itself. All of these are examples of bowling innovations that applied throughout the history of the sport. Bowlers always want to strike as much as they possibly can. The U.S. Open is the ultimate test of a bowler's skill. In 1958, Eddie Elias founded the PBA which enabled bowlers to make a living by throwing a bowling ball.

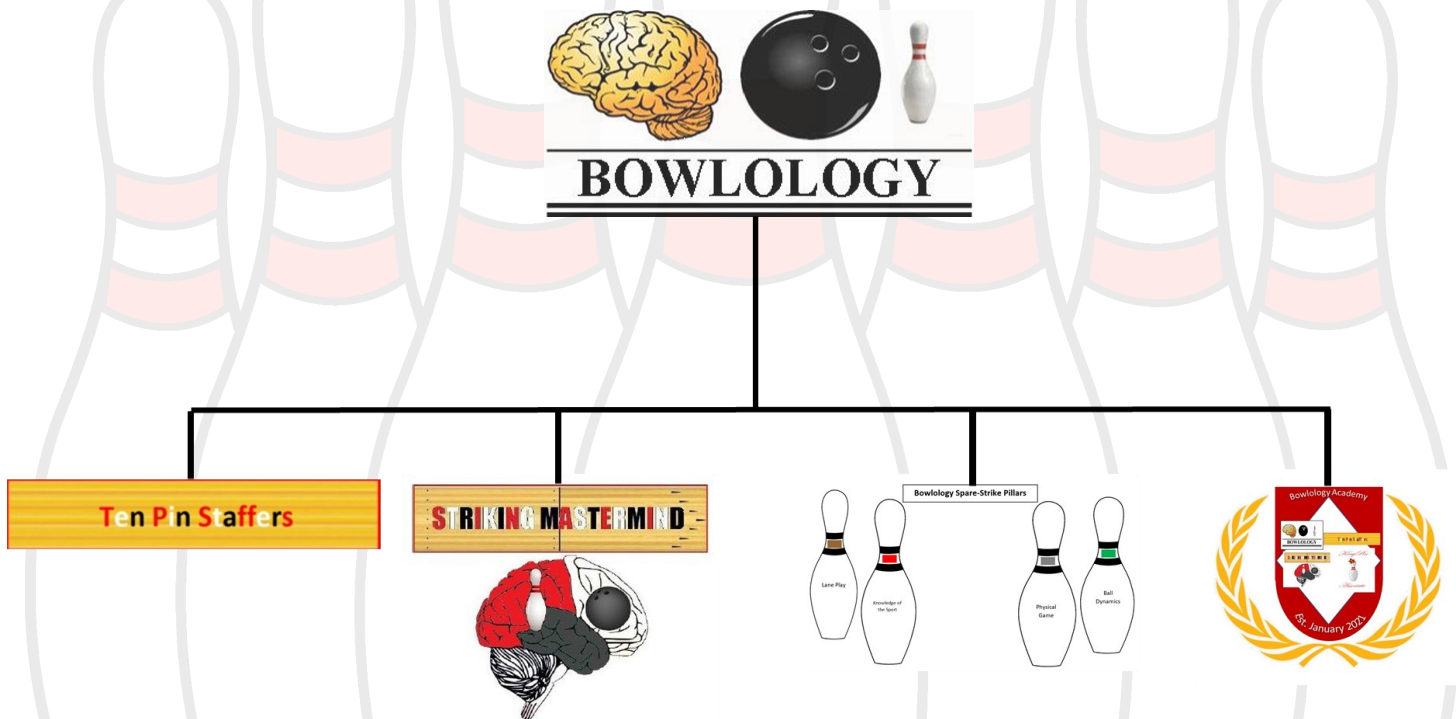
PBA Pinnacle of Bowling

The Pinnacle of Bowling is the PBA. Earl Anthony, Dick Weber, Don Carter, Walter Ray Williams, Jr., Pete Weber, Jason Belmonte, and EJ Tackett are the elite group of the greatest players in the history of the PBA. Along with many others the PBA has five majors tournaments. These tournaments are as follows. The PBA World Championship the U.S. Open, the Tournament of Champions, The USBC Masters, and the PBA Players Championship, Norm Duke, Johnnie Petraglia, Billy Hardwick, Chris Barnes, Pete Weber, Mike Aulby are the only players to complete the Triple Crown. In 2013 Pete Weber became the first bowler to complete the Triple Crown twice when he won the Tournament of Champions. These five majors are difficult to score on because of the challenging lane conditions that have less margin of error than a normal PBA tournament. In 2008 the PBA celebrated 50 years of the PBA. Earl Anthony was voted the greatest bowler in the history of the PBA. Ten years later for the 60th anniversary the PBA would come up with 60 greatest moments in PBA History. Don Johnson would have the all-time greatest moments in the 1971 Tournament of Champions by shooting a 299 in the championship game. In 1975 the PBA would have the inaugural PBA Hall of Fame. Dick Weber, Don Carter, and Carmen Salvino would be the first PBA Hall of Famers to get inducted into the hall of fame.

Chris Schenkel, Eddie Elias, and Dick Weber were the forefathers at the PBA founding.



Bowlology Organizational Chart



Bowlology was established in 2011 as a column in the Josh Hyde Bowling Newsletter. The first topic was on the perfect strike. The founder of Bowlology, Josh Hyde, wanted to share his knowledge about the sport of bowling. This organizational chart is made up of coaches, bowlers, and pro shop operators that love the sport of bowling. In each area, Bowlology is striving to teach bowlers more about the sport they compete in. Josh Hyde noticed that few bowlers were aware of the fundamentals of the sport. The Ten Pin Staffers and pro-shop operators know the dynamics of the bowling ball and the physical game. Striking Mastermind is for bowlers who compete at tournaments. Ten Pin Staffers, Shrinking Mastermind and the Spare Strike Pillars are all under the Bowlology umbrella. Authors and/or coaches like Mike Shady, Kim Terrell-Kearney, Fred Borden, Mark Baker, Del Ballard, Jr. and Mo Pinel have been highly influential in bowling instruction. For those people that are interested, they can email Josh Hyde at joshhydeb bowling@gmail.com for more information.

Bowlology Fact Sheet

ABC founded in 1895

In 1913 Bowler's Journal was founded.

In 1913 the Dodo Ball was outlawed.

In 1916, the WIBC was founded

In 1932 Bowling was an exhibition sport in the Olympics.

In 1932 the BPAA was founded by a few bowling proprietors.

In the 1936 the first mechanical pin setter was invented by AMF.

The ABC currently known as the USBC founded the ABC Hall of Fame in 1941.

John Crimmons won the first BPAA All-Star tournament now known as the US Open

In 1951 Lee Jouglaard would win the first Master's Tournament.

In 1957 Dick Hoover became the first player to win successfully defend his Masters Title.

Eddie Elias founded the PBA in 1958

In 1958 the Budweiser Team shot a team record of 3858 the team was consisted of Ray Bluth, Don Carter, Dick Weber, Tom Hennessey, and Pat Patterson

Lou Campi won the first PBA Tournament in 1959

In 1962 ABC broadcasted their first PBA telecast.

Don Carter was the first bowler to sign a seven-figure deal with Ebonite.

In 1967 Jack Biondolillo rolled the first televised 300 at the Tournament of Champions.

In 1969 at the BPAA All-Star currently known as the US Open Billy Hardwick became the first player to complete the Triple Crown.

In 1969 the PBA created the Regional Program giving high level amateur bowlers the chance at professional level competition of the PBA.

Don Johnson had a 299 game to win the Tournament of Champions

From 1966- 1970 Don Johnson made the Championship Round at the Tournament of Champions.

In 1973 Don McCune won six titles by soaking his ball in MEK.

In 1973 Jim Godman became the first player to win multiple Tournament of Champions.

1978 Mark Roth won eight titles on the PBA Tour.

In 1979 George Pappas led the Tournament of Champions wire to wire.

Nelson Burton Jr has won the Doubles and All Events in 1979 USBC Open Championship

In 1980 Mark Roth made a 7-10 split on national television.

In 1981 the PBA50 Tour was founded these bowlers could not the bowl on the regular PBA Tour in their earlier years. It allowed those guys to compete with Dick Weber, Carmen Salvino, and Harry Smith

Glenn Allison shot 900 in 1982

Earl Anthony became the first millionaire at the PBA National Championship in 1983.

Norm Duke became the youngest player to win a PBA Title in 1983.

In 1984 Mike Durbin became the first bowler to win three Tournaments of Champions.

The Bowling Hall of Fame was opened in 1984.

In 1987 Pete Weber became the fastest bowler to win ten titles at the Tournament of Champions.

Bob Benoit was the first bowler to bowl a perfect game in the Championship Match

At the 1990 Fall Classic in Milwaukee, Wisconsin the United States Bowling Congress finally sanctioned PBA Tournaments.

In 1991 Del Ballard, Jr rolled a gutter ball on the final bowls.

In 1992 Dick Weber became the first player to win titles in five different decades.

At the 1993 Wichita Open Mike Aulby and David Ozio would set the highest scoring match on National Television.

In 1993 George Branham III became the first African American to win a major at the Tournament of Champions.

In 1993 Phil Ware would win the first ABC Senior Masters

At the 1994 PBA National Championship Johnny Petraglia would earn \$100,000 on National Television.

In 1995 ABC currently known as USBC celebrated their 100th anniversary.

In 1995 John Handegard became the oldest bowler to win a PBA Tour Title.

In 1995 Mike Aulby would become the fourth player to complete the Triple Crown and Grand Slam.

In 1995 the National Bowling Stadium opened.

In 1996 after a hiatus both the Men's & Women's U.S Open were conducted simultaneously

In 1996 Bob Learn shot a four-game record of 1129 averaging 282.25 for his four games.

In 1996 Dave Husted became the first bowler to successfully defend the U.S. Open.

In 1996 Marshall Holman became the youngest bowler to win the Tournament of Champions.

In 1996 Mike Aulby became the first bowler all five majors at the Bayer-Brunswick Touring Players Championship.

In 1996 the Top Five averaged 276.37 in the Flagship Open.

In 1997 Amelto Monacelli became the first international bowler to enter the PBA Hall of Fame.

Bowlology Fact Sheet—Cont'd

In 1997 Jeremy Sonnenfeld rolled the first sanctioned 900.

In 1997 Walter Ray Williams, Jr would become the first bowler to earn two million dollars in career earnings.

In 1998 Mike Aulby would become the first bowler to win the USBC Masters three times.

In 1998 PBA Founder Eddie Elias passed away.

In 1999 Eric Forkel would win the very first outdoor tournament in Bryant Park

Chris Peters a former Microsoft Executive purchased the PBA in 2000.

From the 90's to the 2000's Walter Ray Williams, Jr was voted the bowler of the decade for two straight decades.

In 2000 Jason Couch became the first player to defend his TOC title at the Brunswick World Tournament of Champions.

In 2000-2001 Jeff Carter set the all-time high average for one season of 261.7.

In 2001 Carolyn Dorin-Ballard won a record seven titles on the PWBA Tour.

In 2001 Joe Norris & Earl Anthony passed away.

In 2002 Jason Couch became the first player in PBA History to win three TOC in a row.

In 2002-2003 Walter Ray Williams, Jr won two majors while earning \$300,000 on the PBA Tour.

In 2003 the PWBA had to shut down due to financial hardship.

In 2004 the USBC Open Championship turned 100 years old.

Danny Wisemen shot 289 at the USBC Masters in Milwaukee Brewers Stadium.

In 2005 the Bowling World lost two icons Dick Weber & Chris Schenkel

In 2006 at the PBA World Championship Walter Ray Williams Jr tied Earl Anthony with 41 titles beating Pete Weber.

In 2008 Earl Anthony was voted the greatest player in PBA History.

In 2008 Norm Duke also won the three majors in a single year because it was not in the same season. It did not count as three majors in a single season.

In 2008 the PBA recognized the USBC Masters and the BPAA All-Star as PBA Titles.

In 2009 Jason Belmonte became the first bowler to win with two hands.

In 2009 PBA introduced the World Series Of Bowling Tournament in Allen Park, Michigan.

In 2009 Tom Smallwood went from unemployment to PBA World Champion.

In 2009-2010 Walter Ray Williams, Jr would become the first bowler to earn PBA Player of the Year in three different decades.

Kelly Kulick became the first woman to win a major at the Tournament of Champions.

In 2011 the Tournament of Champions had a one-million-dollar purse with \$250,000 going to the winner.

In the Semi-Finals of the 2011 Tournament of Champions Mika Koivieumi & Tom Daugherty would set most margins by 299 to 100.

Sean Rash made all the Animal pattern Championships at the 2011 World Series of Bowling

In 2012 Johnny Petraglia became the first PBA Player to win titles in six different decades.

Pete Weber won his fifth US Open in 2012

Pete Weber became the only player to complete the Triple Crown at the 2013 Tournament of Champions

In 2015 Jason Belmonte became the first bowler to three-peat the USBC Masters.

In 2015 Jason Belmonte became the second bowler defend his Tournament of Champions Title.

In 2015 Sean Rash became the first bowler to roll two perfect games on National Television at the Tournament of Champions.

Anthony Simonson in 2016 became the youngest player on the PBA Tour to win at the USBC Masters.

In 2016 Francois Lavoie became the first player to bowl a 300 in the championship round at the U.S. Open.

In 2016 Jesper Svensson became the youngest bowler to win Tournament of Champions.

2017 Walter Ray Williams Jr would win his 100 PBA Title in a PBA Regional.

In 2017 Jason Belmonte became the first player to win three majors in a single season on the PBA Tour.

In 2017 Liz Johnson became the second women to win a PBA Title at the World Series of Bowling.

Jason Belmonte became the first player to win four USBC Masters Titles.

At the 2019 USBC Women's Open Championship it turned 100 years old.

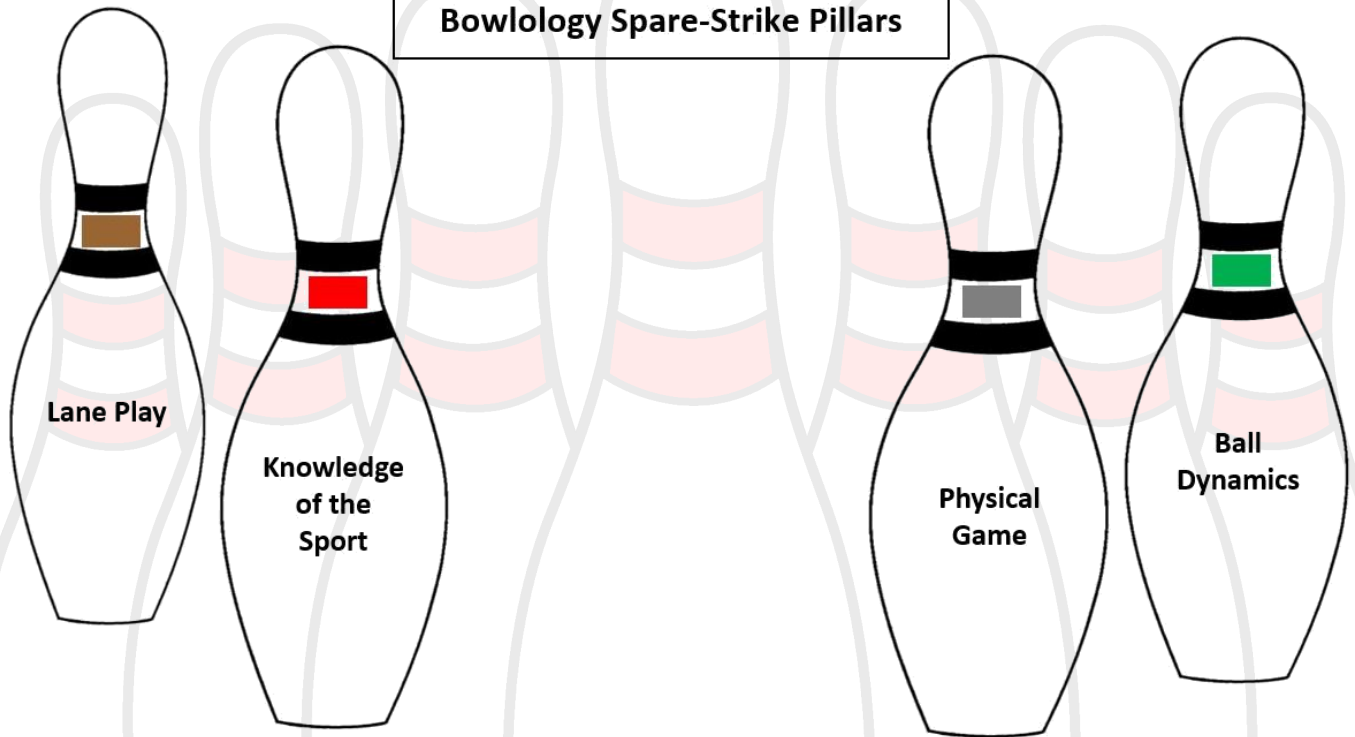
In 2019 Brunswick merged with Ebonite, they now own Columbia 300, Track, Hammer, and PowerHouse along with Ultimate & Radical & DV8 Products.

Tommy Jones, Chris Barnes, Mike Aulby, Jason Belmonte and EJ Tackett are the only five players to earn Player of the Year & Rookie of the Year Honors.

August of 2020 USBC outlawed weight holes.

In 2020 Jason Belmonte would join Mike Aulby as the only two players all five majors by winning the U.S. Open.

Bowlology Spare-Strike Pillars



When Bowlology was founded in November of 2011, the Josh Hyde's Bowling Newsletter wanted to give bowlers some knowledge of the sport. These spare- strike pillars are essential to Bowlology in that they are the four pillars that a bowlologist will need in order to help bowlers, coaches and pro-shop operators.

--The First Pillar is Knowledge of the Sport which involves split making, makeable splits, lane courtesy, the perfect strike, score-keeping, playing field, pin knowledge, pin carry, and general bowling knowledge.

--The Second Pillar is the Physical Game. If a bowler does not have a solid foundation, he or she is not going to be able to execute in every frame. Timing puts away the trail leg, the finish position and the arm swing. These are the main attributes of a bowler's physical game.

--The Third Pillar is Lane Play which is how the bowler plays the lanes making hand position and speed adjustments. In most sports, the athletes are not going to have to worry about the surface of the field. However, in bowling, bowlers do have to know what the lanes are doing in order to be a contender in a league match. The same holds true when Jason Belmonte needs a strike to win the U.S Open. Lane play is a big portion of a bowler's game.

--The Final Pillar is Ball Dynamics. This is where the bowler and the pro-shop operator need to be on the same page. Each bowler is different. If a pro bowler wins a Major and Joe Bowler wants to use the same ball with the same layout and surface, more than likely Joe Bowler will not have the same results as the pro bowler due to differences in their game. They may use the same ball except with a different layout and surface. This is why it is so important for the pro-shop operator to know Joe Bowler's game. Pro-shop operators generally know the dynamics of the bowling ball. Ideally, the bowler needs to find a pro-shop operator that has some coaching experience. If he/she has a pro-shop operator and a coach, all three need to come up with a game plan so that the bowler can be successful on the lanes.

These four Bowlology Spare-Strike Pillars will enable bowlers, coaches and pro-shop operators to identify bowling knowledge.

Bowlologist Problem-Solving Chart

<u>Open</u>	<u>Spare</u>	<u>Strike</u>
Bowler falls off balance at the foul line	Physical Game	Frame 2
Bowler cannot identify his PAP	Ball Dynamics	Frame 3
Bowler is muscling the ball	Physical Game	Frame 2
Bowler is not choosing the right ball	Lane Play and/or Ball Dynamics	Frames 3 thru 5
Bowler misses spares	Knowledge of the Sport	Frame 1
Bowler is not using the correct surface on the ball	Ball Dynamics	Frame 3 & 5
Bowler is not reading the lanes right	Lane Play	Frame 4
Bowler is using the wrong layout	Ball Dynamics	Frame 3
Bowler is playing in the wrong area on the lane	Lane Play	Frame 4
Bowler is leaving the ten pin and is unable to string strikes	Lane Play	Frame 4
Bowler fails to acknowledge bowlers on adjacent lanes	Knowledge of the Sport	Frame 1
Bowler stands in the same spot every frame and does not adjust	Lane Play	Frame 4
Bowler bowls well on specific pattern but has trouble bowling on other patterns	Lane Play	Frame 4
Bowler misses double wood spares	Knowledge of the Sport	Frame 1

This chart is for Bowlologists to use as a reference to help other bowlers.

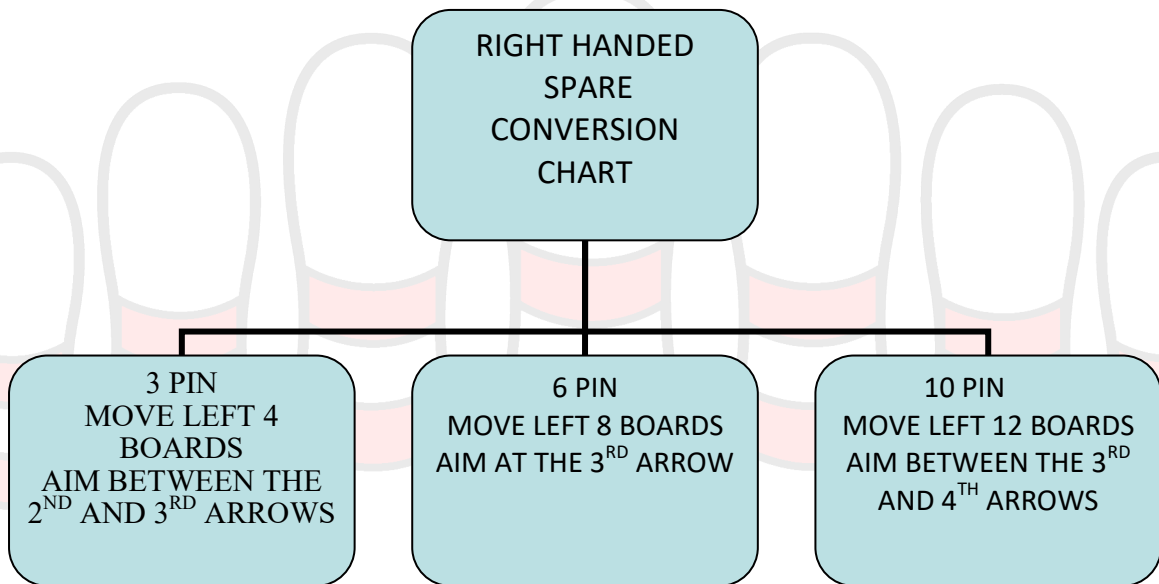
The "Open" represents the problem.

The "Spare" represents the four key areas - Knowledge of the Sport, Physical Game, Ball Dynamics and Lane Play.

The "Strike" refers to the specific frame(s) in the Bowlology book.

Bowlers must practice in order to advance their game to the next level. The chart above is of course not a substitute for practicing on the lanes. Bowlers must always practice to improve their game and maintain their skills. Also remember going hard and straight at spares is the ideal way to convert spares and it will alleviate the pattern of whiffing the spare. Bowlers do not want to do this especially opening up with a double. If a bowler goes double ten pin and makes the spare his/her maximum score is 279. However if they miss the spare. Then they can only max out at a 267 making that spare can add 12 pins at the end of the game.

*****PRACTICE*****
Shooting Spares & Strikes



REMEMBER- BOWLERS NEED TO OPEN THEIR BODY SLIGHTY TO THE TARGET.

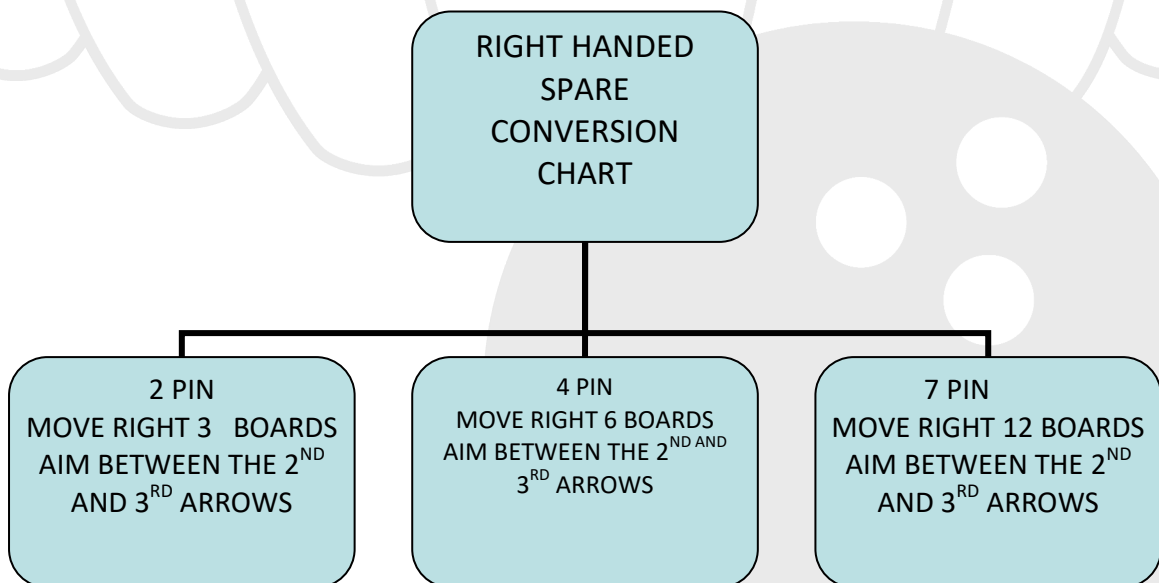
HEADPIN & 5 PIN SPARES

IF A BOWLER LEAVES THE HEADPIN- NO ADJUSTMENT IS NEEDED- THEY CAN USE THEIR STRIKE SHOT.

IF A BOWLER LEAVES THE 5 PIN- NO ADJUSTMENT IS NEEDED- THEY CAN USE THEIR STRIKE SHOT.

STRAIGHTER IS GREATER- GOING HARD AND STRAIGHT AT SPARES HAS A HIGHER PERCENTAGE RATE THAN HOOKING AT SPARES.

EQUIPMENT NEEDED- PLASTIC BALL- PLASTIC BALLS TEND TO GO MUCH STRAIGHTER THAN THE HIGH-TECH BALLS OF TODAY.



REMEMBER- BOWLERS NEED TO OPEN THEIR BODY SLIGHTY TO THE TARGET.



LEFT HANDED SPARE CONVERSION CHART

2 PIN
MOVE RIGHT 4 BOARDS
AIM BETWEEN THE 2ND
AND 3RD ARROWS

4 PIN
MOVE RIGHT 8 BOARDS
AIM AT THE 3RD ARROW

7 PIN
MOVE RIGHT 12 BOARDS
AIM BETWEEN THE 3RD
AND 4TH ARROWS

REMEMBER- BOWLERS NEED TO CLOSE THEIR BODY SLIGHTLY TO THE TARGET.

HEADPIN & 5 PIN SPARES

IF A BOWLER LEAVES THE HEADPIN- NO ADJUSTMENT IS NEEDED- THEY CAN USE THEIR STRIKE SHOT.

IF A BOWLER LEAVES THE 5 PIN- NO ADJUSTMENT IS NEEDED- THEY CAN USE THEIR STRIKE SHOT.

STRAIGHTER IS GREATER- GOING HARD AND STRAIGHT AT SPARES HAS A HIGHER PERCENTAGE RATE THAN HOOKING AT SPARES.

EQUIPMENT NEEDED- PLASTIC BALL- PLASTIC BALLS TEND TO GO MUCH STRAIGHTER THAN THE HIGH-TECH BALLS OF TODAY.

LEFT HANDED SPARE CONVERSION CHART

3 PIN
MOVE LEFT 3 BOARDS
AIM BETWEEN THE 2ND
AND 3RD ARROWS

6 PIN
MOVE LEFT 6 BOARDS
AIM BETWEEN THE 2ND
AND 3RD ARROWS

10 PIN
MOVE LEFT 12 BOARDS
AIM BETWEEN THE 2ND
AND 3RD ARROWS

REMEMBER- BOWLERS NEED TO OPEN THEIR BODY SLIGHTLY TO THE TARGET.

21 MULTIPLE COMMON/MAKEABLE SPARES

Left Hand		
Spare	Move	Target
3-5-6	3 Boards Left	Aim between the 2nd and 3rd arrow
1-3-9	5 Boards Left	Aim between the 2nd and 3rd arrow
3-6-9	3 Boards Left	Aim between the 2nd and 3rd arrow
6-9-10	5 Boards Left	Aim between the 2nd and 3rd arrow
2-4-8	6 Boards Right	Aim between the 2nd and 3rd arrow
2-4-7	6 Boards Right	Aim between the 2nd and 3rd arrow
4-7-8	8 Boards Right	Aim between the 2nd and 3rd arrow
1-5	Strike Shot	Aim between the 2nd and 3rd arrow
3-6	5 Boards Left	Aim between the 2nd and 3rd arrow
3-9	3 Boards Left	Aim between the 2nd and 3rd arrow
2-4	3 Boards Right	Aim between the 2nd and 3rd arrow
6-10	8 Boards Left	Aim between the 2nd and 3rd arrow
6-9	6 Boards Left	Aim between the 2nd and 3rd arrow
5-9	1 Board Left	Aim between the 2nd and 3rd arrow
5-8	Strike Shot	Aim between the 2nd and 3rd arrow
4-7	10 Boards Right	Aim between the 2nd and 3rd arrow
1-3-5-6	5 Boards Left	Aim between the 2nd and 3rd arrow
1-3-6-10	5 Boards Left	Aim between the 2nd and 3rd arrow
1-3-6-9	5 Boards Left	Aim between the 2nd and 3rd arrow
3-5-6-9	6 Boards Left	Aim between the 2nd and 3rd arrow
2-4-7-8	6 Boards Right	Aim between the 2nd and 3rd arrow

Right Hand		
Spare	Move	Target
2-4-5	6 Boards Right	Aim between the 2nd and 3rd arrow
1-2-8	2 Boards Right	Aim between the 2nd and 3rd arrow
2-4-8	3 Boards Right	Aim between the 2nd and 3rd arrow
4-7-8	7 Boards Right	Aim between the 2nd and 3rd arrow
3-6-9	6 Boards Left	Aim between the 2nd and 3rd arrow
3-6-10	6 Boards Left	Aim between the 2nd and 3rd arrow
6-9-10	7 Boards Left	Aim between the 2nd and 3rd arrow
1-5	Strike Shot	Aim between the 2nd and 3rd arrow
2-4	5 Boards Right	Aim between the 2nd and 3rd arrow
2-8	3 Boards Right	Aim between the 2nd and 3rd arrow
3-6	6 Boards Left	Aim between the 2nd and 3rd arrow
4-7	8 Boards Right	Aim between the 2nd and 3rd arrow
4-8	6 Boards Right	Aim between the 2nd and 3rd arrow
5-8	1 Board Right	Aim between the 2nd and 3rd arrow
5-9	Strike Shot	Aim between the 2nd and 3rd arrow
6-10	10 Boards Left	Aim between the 2nd and 3rd arrow
1-2-4-5	4 Boards Right	Aim between the 2nd and 3rd arrow
1-2-4-7	4 Boards Right	Aim between the 2nd and 3rd arrow
1-2-4-8	4 Boards Right	Aim between the 2nd and 3rd arrow
2-4-5-8	6 Boards Right	Aim between the 2nd and 3rd arrow
3-6-9-10	6 Boards Left	Aim between the 2nd and 3rd arrow

REMEMBER- IT IS BETTER TO TAKE AS MANY PINS OUT AS POSSIBLE WITH THE BALL RATHER THAN SOLELY RELYING ON PIN ACTION.

MAKEABLE SPLITS			
SPLIT	Move	RH-LH	Target
2-4-7-10	6 Boards Left	LH	Aim between the 2nd and 3rd arrow
3-6-7-10	6 Boards Left	RH	Aim between the 2nd and 3rd arrow
2-4-10	6 Boards Left	LH	Aim between the 2nd and 3rd arrow
1-3-4-6-7-9	5 Boards Left	LH	Aim between the 2nd and 3rd arrow
4-7-9	10 Boards Right	RH	Aim between the 2nd and 3rd arrow
1-2-8-10	5 Boards Right	RH	Aim between the 2nd and 3rd arrow
1-2-4-8-10	5 Boards Right	RH	Aim between the 2nd and 3rd arrow
1-2-4-6-8-10	5 Boards Left	RH	Aim between the 2nd and 3rd arrow
5-7-9	Strike Shot	RH	Aim between the 2nd and 3rd arrow
5-8-10	Strike Shot	LH	Aim between the 2nd and 3rd arrow
1-3-4-5-6-7	5 Boards Left	LH	Aim between the 2nd and 3rd arrow
6-8-10	10 Boards Left	LH	Aim between the 2nd and 3rd arrow
3-6-7	6 Boards Left	RH	Aim between the 2nd and 3rd arrow
2-7	6 Boards Right	LH	Aim between the 2nd and 3rd arrow
9-10	6 Boards Left	RH-LH	Aim between the 2nd and 3rd arrow
7-8	8 Boards Right	RH-LH	Aim between the 2nd and 3rd arrow
5-10	Strike Shot	LH	Aim between the 2nd and 3rd arrow
5-7	Strike Shot	RH	Aim between the 2nd and 3rd arrow
3-10	6 Boards Left	RH	Aim between the 2nd and 3rd arrow
3-9-10	6 Boards Left	RH	Aim between the 2nd and 3rd arrow
2-7	6 Boards Right	LH	Aim between the 2nd and 3rd arrow
2-7-8	6 Boards Right	LH	Aim between the 2nd and 3rd arrow
1-2-4-10	6 Boards Right	RH	Aim between the 2nd and 3rd arrow
1-2-4-6-10	5 Boards Right	RH	Aim between the 2nd and 3rd arrow
1-3-6-7	6 Boards Left	LH	Aim between the 2nd and 3rd arrow
1-3-4-6-7	5 Boards Left	LH	Aim between the 2nd and 3rd arrow
4-7-10	10 Boards Right	RH-LH	Aim between the 2nd and 3rd arrow
4-5	3 Boards Right	RH-LH	Aim between the 2nd and 3rd arrow
6-7-10	10 Boards Left	RH-LH	Aim between the 2nd and 3rd arrow
5-6	3 Boards Left	RH-LH	Aim between the 2nd and 3rd arrow
4-9	10 Boards Right	RH	Aim between the 2nd and 3rd arrow
1-2-4-5-6-10	5 Boards Right	RH	Aim between the 2nd and 3rd arrow
8-9	Strike Shot	RH-LH	Aim between the 2nd and 3rd arrow
1-2-4-7-10	5 Boards Right	RH	Aim between the 2nd and 3rd arrow
1-2-4-5-7-10	5 Boards Right	RH	Aim between the 2nd and 3rd arrow
1-2-4-7-8-10	5 Boards Right	RH	Aim between the 2nd and 3rd arrow
1-3-5-6-7-10	5 Boards Left	LH	Aim between the 2nd and 3rd arrow
1-3-6-7-9-10	5 Boards Left	LH	Aim between the 2nd and 3rd arrow
1-2-4-6-7-10	5 Boards Right	RH	Aim between the 2nd and 3rd arrow
1-3-6-7-10	5 Boards Left	LH	Aim between the 2nd and 3rd arrow
1-3-4-5-6-7-10	5 Boards Left	LH	Aim between the 2nd and 3rd arrow
1-3-6-7-9	5 Boards Left	LH	Aim between the 2nd and 3rd arrow
6-8	10 Boards Left	LH	Aim between the 2nd and 3rd arrow

Remember: it is better to take as many pins out with the ball rather than solely relying on pin action. Split-making: the smallest number pin standing will take out either the adjacent or diagonal pins.

HOOKABLE SPARES / SPLITS			
LH/RH	SPARE /SPLIT	ADJUSTMENT	TARGET
RH	2-4-5-7	5 boards right	Same as Strike target
LH	3-5-6-10	5 boards left	Same as Strike target
RH	1-2-4-7-8	3 boards right	Same as Strike target
LH	1-3-6-9-10	3 boards left	Same as Strike target
RH	3-6-10	5-9 boards left	Same as Strike target
LH	2-4-7	5-9 boards right	Same as Strike target
RH	3-6-9-10	5-9 boards left	Same as Strike target
LH	2-4-7-8	5-9 boards right	Same as Strike target
RH	1-2-4-9	1 board right	Same as Strike target
LH	1-3-6-8	1 board left	Same as Strike target
RH	2-4-5-8	3 boards right	Same as Strike target
LH	3-5-6-9	3 boards left	Same as Strike target
RH	1-3-8-9	2-3 boards right	Same as Strike target
LH	1-2-8-9	2-3 boards left	Same as Strike target
RH	2-4-5	3 boards right	Same as Strike target
LH	3-5-6	3 boards left	Same as Strike target
RH	2-4-10	5-6 boards right	Same as Strike target
LH	3-6-7	5-6 boards left	Same as Strike target
RH	4-5-7	3-4 boards right	Same as Strike target
LH	5-6-10	3-4 boards left	Same as Strike target
RH	4-7-9-10	9 boards right	Same as Strike target
LH	6-7-8-10	9 boards left	Same as Strike target
RH	5-7-9	3-5 boards left	Same as Strike target
LH	5-8-10	3-5 boards right	Same as Strike target
RH	1-2-4-10	5 boards right	Same as Strike target
LH	1-3-6-7	5 boards left	Same as Strike target
RH	1-3-6-9	2 boards left	Same as Strike target
LH	1-2-4-8	2 boards right	Same as Strike target
RH / LH	5-8	1-2 boards right	Same as Strike target
LH / RH	5-9	1-2 boards left	Same as Strike target

Remember: Straighter is greater, but if the bowler feels like he/she is better at making the spares or splits by hooking at them, the bowler's margin of error goes down significantly. The smallest number pin standing will take out the diagonal pins if thrown correctly.

Ten in the Pit - Important Bowling Numbers

Every Bowlologist Should Know

10	The maximum number of pins a bowler can knock down in one or two shots
10	The number of frames in a single bowling game
10	The number of pins on the lane
15	The number of feet from the back of the approach to the foul line
20	Minimum score per frame that a bowler can obtain for a 200 game
30	The amount of pins that a bowler can achieve in one frame
39	The number of boards on a bowling lane
60	The number of feet from the foul line to the headpin
75	The number of feet from the back of the approach to the headpin
300	The maximum score for a bowling game

These 10 numbers are important in the sport of bowling. For Bowlologists, these numbers are essential for understanding many critical aspects of the sport. Knowing these numbers allows a bowler to achieve the level of a Bowlologist. A Bowlologist should always be able to recall these numbers. This chart is called "Ten in the Pit" to signify that by knowing these numbers, you are assured of a "strike" (having a high level of knowledge about the sport of bowling - a Bowlologist).

Bowler Inventory Guide

Balls	Bowler needs one plastic ball, four spares, a benchmark ball, a ball that they always go to Different layouts to maximize lane play.
Tape	Texture to put on bowlers hands and or finger or thumbhole.
Wrist support	To keep a bowlers wrist in the proper position.
Glue	To re-glue the bowler's finger & thumb inserts.
Finger & Thumb inserts	If a bowler has a Switch Grip by Turbo and Interchangeable Thumb by Vise.
Shammy	To make sure all the oil gets off the ball each time the ball is thrown.
Soles & Heels	A bowler needs spares of these to be able to adjust the different approaches.
Abalon Pads	A low number on the pad, i.e. 500, will give the ball more traction and make it hook earlier. A high number on the pad, i.e. 3000, will make the ball smooth and reduce friction and make it hook later. The bowler must adjust the surface before competition starts. Once the ball is thrown for competition, bowlers cannot adjust the surface for the ball.
Shoes	One pair of good custom bowling shoes for the bowler.
Bags	Two 3 ball rollers and one tournament tote bag
Ball Cleaner	When a bowler get to the lanes. They should clean their balls before throwing practice balls.
Grip sack (Rosin bag)	A bowler can have a grip sack or rosin bag. This aids in keeping the hand dry and removes sweat.
Small Notebook	This comes in handy for a bowler to take notes on many things during competition. For example, if a bowler finds a pair they struggled on earlier, they can look back and make adjustments to figure out how to hit that pair of lanes better.
Extra Shoestrings	Quick replacement of broken shoestrings as a bowler cannot keep their balance on the approach with loose shoes.
Ball Cups	1 to 3 cups. To hold the bowler's ball after they clean or resurface ball so they do not roll away.
Shoe Brush	To clean off the bottom of their shoes to wipe off debris excess oil, etc.

Bowling Resources

Books

Bowling: How To Master The Game by Parker Bohn III
Bowling Knowledge is the Key by Fred Borden
Game Changer by Mark Baker
Bowlology by Josh Hyde
Revolutions I & II by Chip Zleke
Beyond the Basics by Ron Hatfield
Par Bowling: Progressive method of bowling instruction
Bowling Execution by John Jowdy
Balance by Bill Taylor
From Gutterballs to Strikes by Mike Durbin
How to Pick Up Spares by Michelle Mullen
Bowling for Dummies by A.J. Forrest and Lisa Iannucci
Fifty Greatest Bowlers in PBA History
Stone 8 by Len Nicholson
Bowling Fundamentals by Michelle Mullen

Magazines & Newsletters

Bowlers Journal International
Josh Hyde's Bowling Newsletter
Bowling This Month

DVD's

Learn to Bowl Competitively: Bowling Lessons From the Legend by Norm Duke
The System by Mark Baker featuring Chris Barnes, Tommy Jones, Lynda Barnes, Barry Asher
Becoming a Better Bowler with Walter Ray Williams Jr
Beyond the Bowling Basics featuring Parker Bohn III and Brad Angelo
Bowling Lessons from the Pros

Coaching & Training Centers

Kegel Training Center
International Training & Research Center
Bowling IQ

Bowling Manufacturers

Brunswick—Ebonite—Columbia 300—DV8—Track—Hammer—Radical
Motiv
Storm— Roto Grip— Global 900
Dexter
Big Bowling
Vise Grips
Turbo



BOWLOLOGY

This exam is for the beginner

1. How many pins does the ball hit in a perfect strike?
2. In timing what does the first and second # mean?
3. Name 3 out of 7 mistakes bowlers could get into?
4. How does a right hander read the lanes?
 - A. Right to Left
 - B. Left to Right
 - C. Side to Side
5. How does a left hander read the lanes?
 - A. Right to Left
 - B. Left to Right
 - C. Side to Side
6. How does a bowler score a strike?
7. How does a bowler score a spare?
8. How does a bowler score an open?
9. True or False? If a bowler marks in the Tenth Frame they at least get one extra ball.
10. Score Frame 1-3

9	/		x	7	2

11. In a bowler's spare game what is the best piece of equipment they can have
 - A. Resin Reactive Ball
 - B. Particle Ball
 - C. Plastic Ball
12. A right hander leaves the Ten Pin. How many boards do they need to move and what way?
13. If a bowler leaves a 6-10 spare how many boards and what way?
14. Is it better to throw a straight or a hook at a spare why?
15. In a proper release the thumb will exit the ball first. True or False?
16. Bonus Question: What is perfect game?

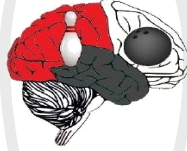
Ten Pin Staffers

Short Questions:

1. Name the three phases of ball motion.
2. If the lanes are slick, is it better to use a sanded ball or a polished ball? Why?
3. If the lanes are dry, is it better to use a sanded or a polished ball? Why?
4. Using the rule of 31, the length of the pattern is 40 feet. What is the break point?
5. What is "High RG" and "Low RG"?
6. What is "PAP"? What is a flat pattern?
7. What is "VAL"?
8. What is a flat pattern?
9. Is it better to go straight or hook the ball at single pin spare?
10. What does 2 and 1 mean, in reference to a bowler's technique adjustment?

Essay Questions:

1. A bowler is having difficulty getting to the pocket. The bowler moves right, and the ball hooks more. The bowler moves left, and the ball hooks less. What should the bowler do?
2. A bowler is 80 over and the cut is 100, with one more game to go, what does he need to shoot in order to make the cut?
3. A bowler goes into the pro shop looking to purchase a ball. Normally, bowlers want to get a ball with the most aggressive hook. How would a Pro Shop operator help make this determination?
4. A bowler is having trouble getting out of the ball. Is this due to too much forward pitch, or too much reverse pitch? How would the bowler best correct this problem?
5. The cut after 5 games was at 130 over. The cut went to 100 over. What happened to reduce the cut and why?



The Striking Mastermind program is for the higher average bowlers that bowl PBA Regional, local scratch tournaments, and “megabuck” tournaments. This quiz will enable a bowler to know more about the game and succeed in tournament play. Each question is worth five points to pass this exam the bowler must get a score of 80 out of 100. It is an exam in that hopefully tests the bowlers knowledge. This program was founded by the Ten-Pin Staffers and Josh Hyde Bowling.

1. If a bowler comes into a pro shop that has an asymmetrical ball the pro shop operator will be able to drill the ball stronger than symmetrical ball.
 - A. True
 - B. False
2. Why is it important to have a good fitting grip in all of your bowling balls?
 - A. To keep the hand in good condition
 - B. To ensure a clean release
 - C. To be able to switch bowling balls without worry
 - D. All of the above
3. In a five step approach to achieve neutral or textbook timing when should the ball and foot begin moving together?
 - A. First step of five
 - B. Second step of five
 - C. Third step of five
4. How can a Pro Shop operator help you improve your bowling ball selections?
 - A. Proper fit
 - B. Drilling layouts
 - C. Coaching
 - D. All of the above
5. Bowlers should know what and how all of their equipment reacts in order to choose the proper ball and surface in competition?
 - A. True
 - B. False
6. What is a flat pattern?
 - A. 12 to 1
 - B. 3 to 1
 - C. 1 to 1



7. If a pattern is longer in length, what type of surface grit does a bowler want on the ball?
 - A. Higher
 - B. Lower
8. Compared to a house pattern, a sport pattern typically has an oil ratio of?
 - A. 4-1 or less
 - B. 2-1 or more
 - C. 3-1 or less
9. What phase of ball motion does the ball need to be in at the backend of the lane in order to have its best chance to strike?
 - A. Roll phase
 - B. Skid phase
 - C. Hook phase
10. What is PAP?
11. When a ball is skidding too far down lane and does not get into the roll phase, what adjustments could you make?
 - A. Change to a ball with a lower surface grit
 - B. Decrease ball speed
 - C. Both A & B
12. If you need the ball to have maximum backend reaction at what degrees should the ball be rotating after the release?
 - A. 0 degrees
 - B. 45 degrees
 - C. 90 degrees
13. When shooting cross lane at a single pin spare conversion, it is better to roll your plastic ball across the lane using 0 degrees rotation so the ball goes straight toward the pin?
 - A. True
 - B. False
14. What is axis rotation
15. What is axis tilt
16. When is it better to hook at a spare, and why?
17. The typical amateur bowler most likely changes balls after the ball does not strike. Why is that not always the best thing?
18. The typical bowler will more than likely go into a pro-shop to get the most hooking ball. Why is this not always a good idea?
19. In a PBA Tournament what is lane courtesy?
20. Why should a bowler learn to tape up their ball.

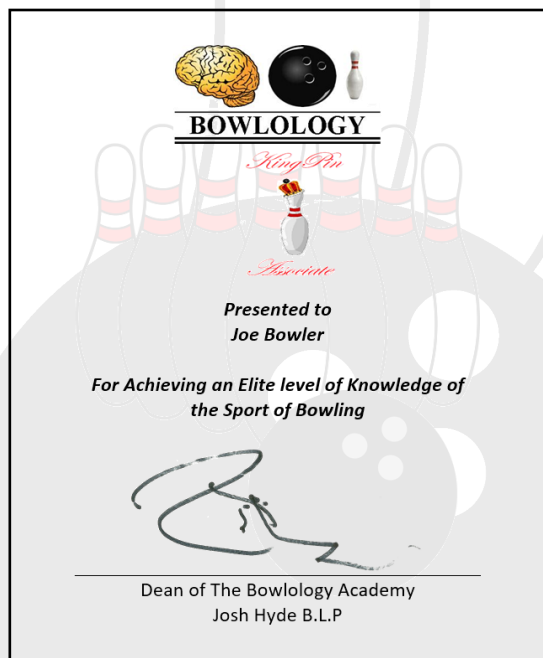
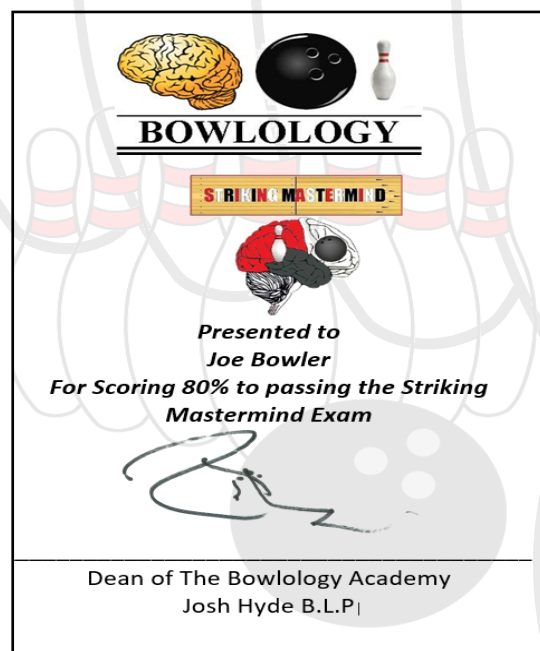
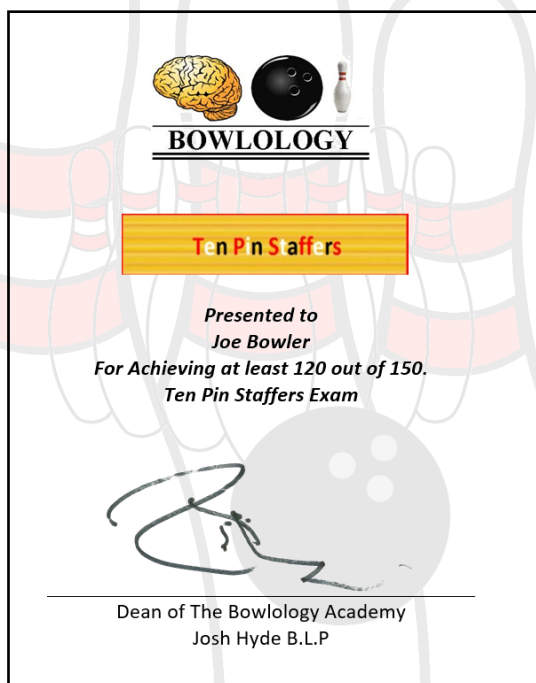
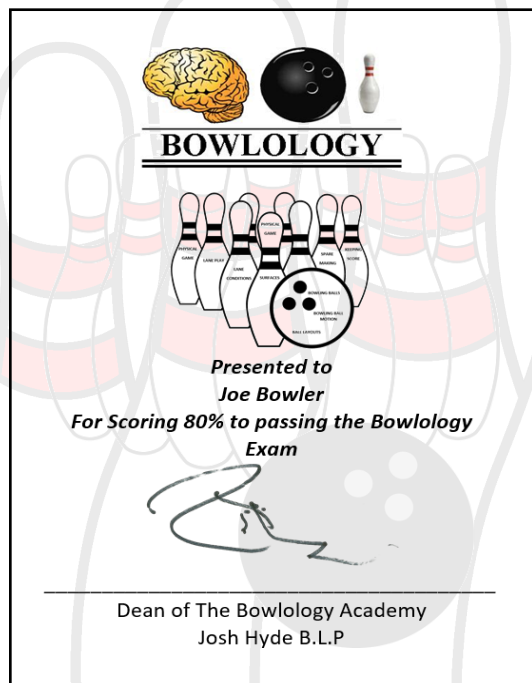
King Pin

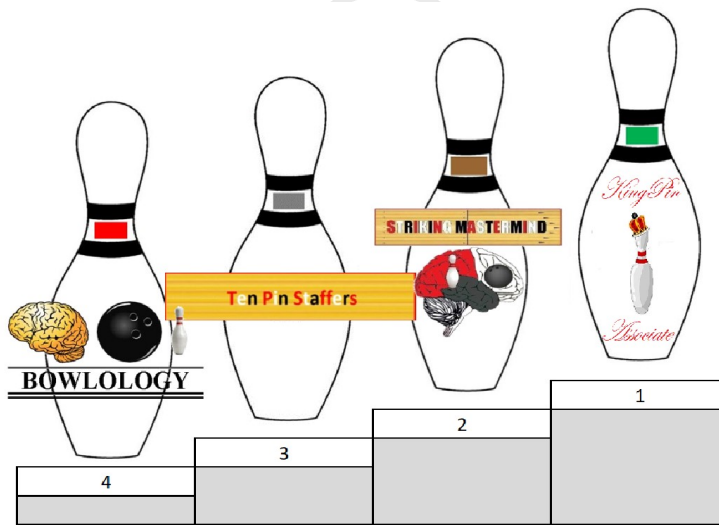


Associate

1. Should Glenn Allison's 900 be recognized by the USBC? Why or Why not?
2. Is today's bowling equipment hurting bowlers? Why or why not?
3. Should the Tournament of Champions come back as a tournament in which only PBA Tour titlists can bowl, rather than including Regional and/or PBA50 Tour titlists. Why or Why not?
4. Who was the greatest bowling coach and why?
5. Should bowlers aim for the PBA or should they try to succeed in a MegaBuck Tournament and stay an amateur player?
6. As of August 1st of 2020, USBC outlaws weight holes. Is this a good idea or not?
7. Is using urethane or resin reactive equipment better for the pros?
8. Rank each of these tournaments using one through five with five being the highest: PBA Players Championship, USBC Masters, U.S. Open, PBA World Championship and Tournament of Champions. Explain the significance of these majors on the PBA Tour.
9. Should bowlers have a house shot average or a league shot average or both in order to join the PBA?
10. Should the U.S. Open be a limited field or have a multitude of bowlers bowling in this tournament?
11. In 2009 the PBA voted Earl Anthony the greatest bowler in the history of the PBA. The second greatest bowler according to the PBA was Walter Ray Williams, Jr. Which one do you think is the # 1 or do you think someone else from 1958 to 2009 should have been nominated? Give an explanation as to your answer.
12. Jason Belmonte and Mike Aulby are the only 2 players to win all Majors on the PBA Tour. Which one was the best?
13. Which was or is the best bowling innovation(s) in the history of the sport? Why?
14. Who had the best bowling form in the history of the sport? Why?
15. Who revolutionized the game the most and why?

These answers are for essay responses rather than for the purpose of receiving a certificate. It is highly recommended that the answers be concise. Bowlers and pro-shop operators can email their answers to Josh Hyde, founder of the Bowler Intelligence Agency, at joshhydeb bowling@gmail.com. They will receive a return email from Josh once he has reviewed and critiqued their answers.





Bowlology— is knowledge of the sport of bowling. Examples are: knowing how to keep score, correctly making spares, lane courtesy, and just basic knowledge of the sport of bowling. Bowlers that are interested in joining Bowlology will receive a certificate once they pass an exam with a score of 80% or better.

Ten Pin Staffer— is for coaches and pro-shop operators who know the physical game and the dynamics of a bowling ball. In order to become a Ten Pin Staffer, a bowler is required to score 130 out of a possible 150 to pass. These individuals know how to help bowlers improve their game.

Striking Mastermind— the Striking Mastermind exam is for the tournament bowler that wants to advance their game to the next level. The Striking Mastermind takes a score of 80 out of 100 to pass.

Bowlology Kingpin Associate— is for those individuals who know a depth of knowledge of the sport of bowling. The greatest bowlers have gone to coaches like Fred Borden, Mark Baker, John Jowdy and Del Ballard, Jr. The Kingpin Associate is for people who know the sport. In addition to knowing how to attack the lanes and bowling ball dynamics. Those who are interested to learn more about this program can email Josh Hyde at joshhydeb bowling@gmail.com.

Bowlology Book Review

The Game Changer

By Mark Baker

Chapter 1: “Discovering a Coaching System That Works for All Bowlers”

“Whoever can generate the most momentum with the least amount of effort and the greatest degree of control will have the best chance to win.”

“As their slide foot got flat on the approach, their swings were both parallel to the floor.”

“At that moment, I decided I was going to conduct an experiment with my late-running client and see if I could get him to ‘the timing spot’ during our lesson. After tweaking a few things with his footwork and timing to get him closer to the spot, he saw immediate improvement in his game-THAT SAME DAY!”

“Almost every great contemporary bowler matched! Mark Roth, Dave Husted, Amleto Monacelli, Doug Kent, Chris Barnes, Bill O’Neill-each of them highly successful, world-class players-they all matched. Then I looked at a few of the all-time great woman bowlers like Robin Romeo, Leanna Hulsenburg (formerly Leanne Barrette), Liz Johnson and Kelly Kulick-they all matched!”

“The first thing I needed to look at when I evaluated a new client was: Does the bowler possess footwork and a swing that promotes consistency?”

“What I discovered again was that the great bowlers had a lot more in common at certain points in the delivery (namely, during the pivot step, the timing spot, the release point and the finish position) than one might imagine at a casual glance.”

“Did the bowler have problems hitting his target? If the answer was ‘yes’, I’d start by looking at the footwork and the swing path from the back. If the answer was ‘no’, and the issues tended to be more a lack of consistent speed control or rev rate, I knew the problem had to be in the timing so I’d watch from the side.”

“Drift pattern-The measurement of the direction of your steps throughout your approach.”

“I’ll never forget his words after watching that comparison video: ‘I can’t believe how much better it looks now! But I never even felt a thing the whole time! You changed me without ever making it feel like I was changing!’”

“That is my philosophy of coaching: to make you better within the context of your natural game.”

“Our goal is to make your game as easy to repeat as possible.”

Chapter 2: “How I conduct a Lesson”

“Unless you’re averaging under 160, you don’t need to throw it BETTER, you just need to throw your best shot MORE OFTEN.”

Textbook Pushaway timing: "Bowlers with this kind of timing tend to have a lower rev rate than other bowlers and must rely on accuracy and consistency to knock down the pins."

"There are really only four misses in the sport of bowling: miss right, throw it too fast; miss right, throw it too soft; miss left, throw it too soft; miss left, throw it too hard;"

"Miss right, throw it too soft and Miss left, throw it too soft are characterized by the following symptoms; You tend to bowl better the 1st game of league and then struggle toward the end as the lanes start to hook more, You have trouble generating adequate ball speed, your rev rate is lower than you'd like it to be, you tend to drift right, you have trouble keeping your balance, and you can't stay behind the ball and tend to 'top it'."

"I discovered a way of measuring timing that is universal-that nearly every Hall of Fame-caliber bowler fits in. The best part is, as bowlers get closer to fitting this mold- which they can do regardless of their style- their games tend to improve rapidly."

"There are three categories of timing (represented by three Hall-of-Famers) and every bowler fits into one of them."

"If you want to improve, you must first identify what kind of timing you have, then identify your most common misses."

"I evaluate direction issues from behind and timing issue from the side."

"Set a goal that, when you reach it, will make you a champion at your level."

Chapter 3: "Why Do I Miss My Target and How Do I Fix It?"

"What is Consistent Direction? Hitting your target at the arrows is important, but only if your footwork and swing path are allowing you to throw the ball with consistent direction."

"In every other successful instance I've done it the other way around and changed the footwork to improve the swing. Why has this worked? Because good footwork allows the ball to swing freely and unimpeded, ultimately leading to an improvement in power, consistency and score-all while reducing the amount of effort required to throw the ball."

"The quality of a bowler's footwork is directly proportional to the quality of his overall game."

"What is good footwork? In general it is relatively straight from start to finish, well balanced, well-paced, (meaning there are no abrupt starts, stops or lengthy pauses) and matches well with the bowler's swing path and rhythm. In other words, it complements the direction and the speed of the swing!"

"The swing is where any weaknesses or inconsistencies with your footwork are likely to show."

"It is ultimately your swing (even if the swing's direction is determined mostly by your footwork) that will determine your accuracy and your ability to throw good, consistent shots. More specifically, it is the *path* of your swing that will determine how simple your delivery is to repeat-and what you will find is that bowlers who possess the straightest, most relaxed swings-swings that stay in line with their shoulder and fall directly under the head- tend not only to have the most consistent direction but also have the greatest capacity for generating power in the form of speed and rev rate."

“Measuring the swing at four points; 1) during the stance, 2) at the bottom of the swing as the ball is coming back, 3) at the top of the swing and 4) at the bottom again as the ball is coming through.”

“It is more important to match the ideal positions at the peak of the swing and at the bottom coming through than it is during the stance and at the bottom going back.”

“The best players tend to have pushaways that are very simple and very repeatable and get the ball into the swing with a minimum amount of effort, tension and, most importantly, no lateral movement.”

“Your goal with the pushaway then, should be to get the ball from its starting point in the stance to as close to under your head as possible as the ball goes back into the swing.”

“The length and speed of this step is predicated on your category of timing: bowlers with Tommy Jones timing will usually make this step quicker because the swing is already on its way to the top, while a bowler with Chris Barnes timing will make it slower(to allow the ball more time to reach the peak of the backswing). Bowlers with Carolyn Dorin-Ballard timing will be somewhere in between the two.”

“Footwork is the most important factor (even more important than the swing) in determining a bowler’s shot-making consistency.”

“It is better to drift away from your target than toward it.”

“Bowlers with better footwork can play inside line much more effectively and are also more powerful, accurate, and consistent in playing all angles than bowlers with less solid footwork.”

Chapter 4: “Why is My Timing Off and How Can I Fix It?”

“I prefer to see the distribution of effort between the upper body and the lower body in the ballpark of 30 percent and 70 percent, respectively”

“Remember: legs are for power. The arm is for direction.”

“flat spot is that it is “the line made by the two points represented by the position of your hand at the bottom of the swing and at the release.”

The Release: “But the one thing that all of these good bowlers do is that much as we saw with the spine tilt, there is a window in which these bowlers release it from, and individually, they all happen to be extremely consistent with releasing the ball from the same spot time after time.”

“More specifically, their hands tend to stay in the center of the ball vertically, while remaining close to the equator in the horizontal direction.”

“Another thing the pros do during this release move is that they do not rotate their forearms with their wrists and hands.”

“Chris Barnes’s Circle would be about the size of a half-dollar. The 160 bowler’s circle would be about the size of a dinner plate. That’s because Chris Barnes’ release point(not to mention his direction) is going to be much more consistent than his 160 average counterpart (and you would hope so considering Chris bowls for his living).”

“The cause of this problem varies (sometimes it’s length of his pushaway(*Bill O’Neill*) other times it is caused by pulling the ball back into the swing and, occasionally, his third step will get a little slow), but you can see it very clearly when you look at Bill’s swing from the timing spot to the release point.”

“When Bill is on, his swing is completely flat is at the bottom, which allows him to get away with these slight misses and to feel as if he can miss a little bit to the right and still get the ball back, and also miss a little bit left and get the ball to hold it’s line.”

Chapter 5: “How Can I Tell When Everything’s Going Right?”

“We’ve seen in detail how direction, balance, timing and generating momentum are absolutely fundamental when it comes to improving your ability to play the sport of bowling. When you do everything in a way that is fundamentally sound according to what we’ve discussed so far, you’ll suddenly begin to notice a set of things you now have in common with other good bowlers.”

“Since the sport of bowling is made up of three main categories of variables(the physical game, lane play and equipment) learning to control your physical game by throwing the most consistent shots possible will help you eliminate one of those variables(you!) so you can simply focus on lane play and equipment adjustments.”

“Finally, we all want to be one of the “cool kids” and, in the sport of bowling, the cool kids are the pros. We all want to throw it like them, and the purpose of this book up to this point has been to help you identify the key fundamentals shared by the pros that you can incorporate into your game to produce better results than you’ve ever experienced.”

“What this looks like is this: their weight is balanced perfectly on top of the left leg, the head and shoulders are behind the knee, the throwing arm is swinging freely back and forth with the front of the forearm facing directly at the target, and the pivot leg is extended out to the left with the foot turned down towards the floor.”

“For bowlers who haven’t quite yet reached that level, the finish position can encompass all sorts of interesting, telltale configurations-from the lean-back, to the lean-forward, to the fall-off, to the fake-post.”

“But on the demanding conditions of tournament bowling, these small mistakes are often the difference between strikes and 2-8-10’s and big fours, which, at the wrong time, can cost you making the cut, making it to TV or winning the title.”

“When it comes to bowlers that haven’t reached the pro-level, the finish position tells me that there is an issue with balance, and the telltale sign of that is what I call “falling off” the shot.

“From the side, there are a couple of big keys that illustrate the universal finish position, namely: the position of the head and shoulders in relation to the slide knee, the level of the hips, the amount of shoulder rotation, and the spine tilt. All of these elements are related, and if you see one going wrong it usually sets off a chain reaction causing each of the other pieces to falter as well.”

“If you rank the all-time career PBA title winners by number of titles, then classify each of them as either “Stone-Cold-Shot-Maker” or “Unique”

“Norm Duke is one of the best examples of excellent footwork in the history of bowling. He employs perfect crossover steps prior to his pushway and on the pivot step (both of which clear space for the ball

to pass right under his head unimpeded), his steps are a fairly even length from start to finish, his spacing is consistent and his balance is as close to perfect as you will see.”

In this book bowlers can find a way to strike more rather than they want to strike to win the league or strike to win a PBA regional title. The best bowlers have these qualities built into their game. It is important to understand that to have a sound game a bowler must repeat shots over and over. If they are already falling off a shot. They really need to look at their game to improve their league average. Even if they are just interested in bowling in a PBA regional competition on a regular basis. They need to figure out what they can do better and fix what they need too. This book will help bowlers on all sort of levels. The Game Changer is an appropriate title for the book that Mark Baker wrote.

Bowlology DVD Review

The System

By Mark Baker

Featuring Tommy Jones, Chris Barnes, Lynda Barnes, and Barry Asher

This DVD is intended to get a bowler's game on a solid foundation. Mark Baker was a great pro in 1985-1991 but now he has turned his attention to coaching bowlers. In the introduction to the DVD, Mark states the goal of his program which is to help bowlers from amateur level to the pros make more best shots, more consistently with more power. Whether they want to just improve their scores or bowl a perfect game.

Mark breaks the game down to ten Hall of Fame Positions. These positions will help bowlers become more accurate, powerful, and consistent in their game, improving their average. The absolute key thing is the timing step. Mark refers to this as the ball is parallel to the lane. The slide leg is still behind the head. Chris Barnes, Lynda Barnes, and Barry Asher are all at the same point at the release. They may not all get there in the same way or same manner, but they do indeed get there. What does this produce? It makes a bowler more accurate and more fluid to a their approach. Baker also describes how every good or bad shot in bowling adds up to 100%. He encourages bowlers to use the only ten percent during the first two steps of the approach so that bowlers can retain more energy for the power at the end of the release. If a bowler uses 30% on his or her, they only have 70% left for the remainder of the approach. Hall of Famers practice this time and time again in order to be more accurate on the release of the ball.

Mark Baker analyzes the Hall of Famers games and focuses on what points they are at in each of their bowling approaches to the foul line. He also describes some of the amateur bowlers that he coaches. One amateur his ball is way out. This bowler thinks that he can get a straight swing in fact. The ball is pointing to the seven pin on the adjacent lane. Mark recommends that the bowler's ball should coincide with seam of their shirt. Mark Baker has broken down the game so that Joe Bowler can get better at whatever level he wants to be at.

In the DVD Baker points out that some of the greats have early and late timing. However, they still end up in the hall of fame, rather it be the PBA or USBC Hall of Fame or both. The question is how a bowler can be consistent throughout his or her game. One of the key things is there swing parallel to the floor, when they start to slide. Baker tells bowlers how to videotape themselves correctly so they can achieve the Hall of Fame positions to get where the bowlers want to be. An incorrect way is following the bowler from the start of the approach. Baker does not want to see the ball in the stance of the bowlers. This causes the bowler to make an adjustment in the middle of their shot causing them to think about their game. When a bowler steps on the approach the brain needs to turn off. Bowlers should not be

thinking about the mechanics, ball choice, and/or adjustment. This process needs to take place in the settee area that's where the bowler's sit while they are waiting on the next frame.

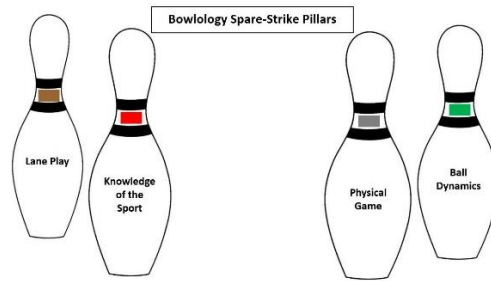
Before Baker goes into the Ten Hall of Fame Positions, he informs the viewers of how they need to videotape their game. First the bowler needs to see their footwork and swing in the same frame. Second, when filming from behind it must be from straight behind and not at an angle. Third, when filming a bowler from the side, the camera should be two lanes down, with next to the gutter cap and foul line. The bowler should be in the center of the frame where their entire approach can be filled from start to finish. Do not track the ball after the release of the ball. Finally, when filming the ball get on the concourse behind the bowler to film the motion of the ball from start to finish.

The Six Steps of the System

1. **The Stance-** the stance is where the ball should not be visible from the back. Teammates or fellow bowlers should not be able to see the ball from directly behind. Bowlers should be putting their ball in line with the seam of their shirt.
2. **The Push Away-** is designed a smooth downswing, by keeping the bowler's shoulder soft. The bowler's energy in the push away should be 10% with the remaining 90% being used in the rest of the approach. This usually means two long steps followed by three short steps at the end or slow at start/fast at finish.
3. **The Swing-** top of the swing ball should cover the top of the bowler's head. It comes directly under the bowler's head on the down swing.
4. **Footwork-** this involves the cross-over step which will generate the ball to get on right direction. The pivot step should be slightly inside the bowler's head. On the slide, the upper body should be using about 30% of a player's energy while the lower body should be using 70%. Foot speed should be slightly greater than swing speed.
5. **Timing Spot-** this is the key piece of a bowler's game. If the bowler can get the swing parallel to the floor then they are able to generate more power to make a great shot.
6. **Finish Position-** the head should be behind the bowler's knee not the head in front of the knee. The bowler will fall off the shot and not be accurate causing a great deal of frustration because they are always falling off the shot. Bowlers want to be fluid in the approach and stable at the end of the shot.

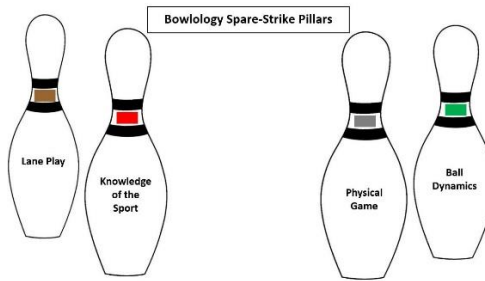
The Release of the ball

It is very important to keep the right hip low and steady in the release. This allows the arm to keep a consistent arc for the ball and the hand to release from behind the ball. If a bowler allows the hip to rise, the arc of the ball will remain the same, but the hand moves on top. If a bowler feel like they have a "chicken wing", came over the top, or did not stay behind the ball, this hip position could be the main cause. The bowler needs to stand tall at the beginning of the approach instead of standing tall at the release point. Chris Barnes stated that he focuses on staying tall at the beginning of his approach as a way he keep his right hip low.



Bowlology Academy presents the Spare Strike Pillars. In this seminar, the Bowlology Academy describes the Bowlology Spare Strike Pillars and why they are important in the sport of bowling. This is a one-day seminar. On the following exam, the Bowler, Coach or Pro-Shop operator has to identify which Pillar applies to the problem(s) that the bowlers is (are) having with their game. An individual must score an 80% in order to pass this seminar. They will be awarded with a certificate from the Bowlology Academy. Good Luck and thank you for attending the Spare Strike Pillar Seminar. Bowlers, Coaches and Pro-Shop Operators are welcome to attend.

1. Joe Bowler falls off balance at the foul line.
A. Knowledge of the Sport B. Lane Play C. Physical Game D. Ball Dynamics
2. Bob Strike goes in to see Mike Bowler who is the Pro-Shop Operator of the Bowler's Stop. Mike wants to know where Bob Strike's PAP is and Bob Strike does not know what Mike is asking.
A. Knowledge of the Sport B. Lane Play C. Physical Game D. Ball Dynamics
3. Susie Spare is muscling the ball instead of having a pendulum swing.
A. Knowledge of the Sport B. Lane Play C. Physical Game D. Ball Dynamics
4. Frank Lane is missing his spares most of the time.
A. Knowledge of the Sport B. Lane Play C. Physical Game D. Ball Dynamics
5. George Frame does not know how to use the right surface on his ball when he needs to.
A. Knowledge of the Sport B. Lane Play C. Physical Game D. Ball Dynamics
6. Ron Open is playing the wrong part of the lane.
A. Knowledge of the Sport B. Lane Play C. Physical Game D. Ball Dynamics
7. Fred Foul is using the wrong layout.
A. Knowledge of the Sport B. Lane Play C. Physical Game D. Ball Dynamics
8. Ron Spare misses left and then moves right, and the ball goes more left because he thought he made the correct adjustment.
A. Knowledge of the Sport B. Lane Play C. Physical Game D. Ball Dynamics
9. Tom Strike needs a double in the tenth to win the game, but he does not know what he needs to win the game.
A. Knowledge of the Sport B. Lane Play C. Physical Game D. Ball Dynamics
10. Tim Spare just goes up and bowls in his lane without looking at the right or left lanes.
A. Knowledge of the Sport B. Lane Play C. Physical Game D. Ball Dynamics



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