Hockey Sticks 101

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Like most everything else over the last 30 years, hockey sticks have evolved tremendously. Unfortunately, in my opinion, this evolution has not necessarily been beneficial to the skill development of our younger players. I first realized this issue during a visit to the University of Wisconsin Men's Hockey team several years ago. During a presentation by an assistant coach an audience member asked if the team provided sticks for their players. The assistant responded that the team did furnish sticks and had an annual stick budget of $250,000. The assistant then added that they were encouraging and often times mandating that a player or players return to using wood sticks because they were experiencing puckhandling problems with the composites. I found this fascinating that these NCAA D1 players at a premier program were having difficulty catching passes, feeling the puck or shooting accurately with the composite sticks as the coach explained in greater detail. Obviously these player's other skills were strong enough to overcome these deficiencies or the coaching staff believed they could correct them with different tools. As I returned to my own team's practices and games, I began to focus more attention on the sticks my players were using and how it was affecting their individual play, development and my team's success. The following is a synopsis of my experiences and research on this matter over the past several years.

Let's begin by understanding the 3 different sizes of sticks currently being marketed and used by our young players. Remember, these size choices were not available to youth players 30 years ago including great players now inducted into the Hockey Hall of Fame.

Stick sizes are as follows:

Junior – The specifications of a junior stick are typically a smaller shaft, smaller blade, more flexible and lighter. These sticks are available in wood for as little $10 or composites for as much as $ 100. Junior sticks are targeted at the mite and pre mite players who play with the lighter blue puck and are physically smaller and weaker. The smaller shaft size allows for stronger grip and enhanced wrist roll capability for players with smaller hands.

Intermediate – Intermediate sticks have a slightly larger shaft, are somewhat heavier and can be stiffer in flex. These sticks are also available (but hard to find) in wood for $18 and up or composites from $59 on up. Intermediate sticks often used by players at the peewee and squirt age levels combined with others still using junior sticks.

Senior – Characteristics of a senior stick include the full size shaft and blade, sometimes heavier depending on the material and they are available in a full range of flexibilities. Senior sticks, like the others, are available in wood for $37 or less and composites for $185 or more.

Any discussion on today's hockey sticks must include a summary of the perceived benefits or detriments associated with wood and composites. I'll start with the composites which are available in two forms the one piece and the shaft/blade combination.

The advantages of a composite one piece stick include that they are generally lighter, more durable and contain a higher degree of flexibility relative to their durability. The disadvantages are cost and in spite of the manufacturer's efforts, there is a perceived reduction in "feel" or "touch" when handling the puck. These sticks are available in all sizes, flex range and are priced from $55 for a junior to $185 for a senior

The advantages of the composite shaft/blade combination are similar to the one piece with regards to weight and flexibility with the added benefit of the multitude of blade options available to a player should he or she decide to change the curve, style or lie of the stick. Again the disadvantages are price with the added disadvantage of a greater reduced "feel" or "touch" when handling the puck due to the "segmented" assembly of multiple components required for these sticks. This single added disadvantage has led the manufacturers to design and produce the one piece composites to replicate the feel commonly associated with wood sticks This type of stick is also available in all sizes and range in price from $16 to $134 for a junior shaft to between $20 and $175 for a senior shaft. Junior blades range from $17 to $44 while seniors range from $16 to $50. Combined shafts and blades can run between $33 and $178 for juniors and $35 to $225 for a senior depending on the combination.

In addition, both the one piece composite and shaft/blade combinations will require a plug or cover for the butt or knob end of the stick adding additional expense and potentially further degrading the "feel" when handling the puck.

In contrast the advantages of wood sticks are that they are generally more affordable and provide a continuous form resulting in a perceived enhanced "feel' when puckhandling. Disadvantages include reduced durability and inconsistent flex based upon the vagaries associated with the source of raw material and manufacturing.

In my opinion, the PeeWee aged players should be using an intermediate or senior stick and it should be selected and prepared based upon a player's position and that position's responsibilities, in addition to a player's preferences and skating style. The first consideration should be stiffness or flex. This information is normally printed on the stick itself. The lower the number the more flexible a stick will be. Junior sticks are typically more flexible with a 50 rating and flex is reduced gradually with intermediate and senior sticks ranging from 75 to 125. Wrist shot and snap shots are usually stronger with more flexible sticks. Conversely, strong and accurate slapshots require a stiffer stick with a few exceptions. More on the slapshot later. It is generally understood that it is more difficult to handle or control the puck with a flexible stick due to the reduced "feel" created or absorbed by the flex. Unfortunately, players believe their shots are stronger with more flexible sticks and therefore most young players prefer a medium or flexible shaft stick with potentially reduced "feel".

The next consideration should be the lie of the stick. I believe this is the most misunderstood and commonly made mistake when purchasing sticks or blades. Sticks are purchased in a pro shop while wearing shoes resulting in an inaccurate lie selection when compared to wearing skates. Even worse yet, sticks are purchased on line now sight unseen and without any consideration of the stick's lie. Stick lie is defined as the angle that the heel of the blade and the blade creates from the shaft. The higher the number the greater the angle is from blade to shaft. For example, a 5 lie equals 45 degrees and a 6 lie is 47. Goalies use sticks with lies of between 13 and 15

allowing them to keep their stick straight, square and close to their feet. This may seem insignificant at the blade or ice level. However, if you translate that angle up the distance of the shaft to your hand position it can be dramatic. Ultimately the lie determines your skating posture, hand position, shooting and passing leverage and how much of the blade is in contact with the ice. Players using sticks with an improper lie that is to high are prone to skate upright without proper knee bend and subsequent stride extensions required for skating speed. Players with stick lies to low are inclined to skate bent over at the waste with their head down and out of proper skating balance.

Many sticks and blades sold and used by young players today have a universal or rockered blade causing the player to constantly adjust his hands and stick position according to the situation to control the puck. Under pressure most players are not able to adjust quick enough and loose control of or turnover the puck, miss what seemed to be an easy shot from the stands or fan on a pass attempt. I would much rather see young players with a properly fitted sticks learning the proper fundamentals of skating and gaining confidence handling the puck as opposed to those who don't. These poorly developed related skill habits will be very difficult to change in the future when they learn how to select a proper stick.

The easiest way to determine if your lie is correct is to examine the tape on the bottom of your stick blade after several ice sessions. If the tape shows even wear across the entire blade then your lie is correct. If the tape wear is on the heel you need to increase your lie. Conversely, if the tape is worn at the toe you need to decrease your lie.

In general the stick length should be to the nose in street shoes or to the chin in skates. Black tape and preferably friction tape should be used on the blade. Black tape will hide the pucks position on the blade allowing the player to deceive opponents with his shooting or passing options, especially opposing goaltenders. Tape should be applied from the heel to the toe enhancing the spin rate of a properly executed shot and reducing the snow build up on the blade. Dry land or off ice stick length should be cut to the chin in street shoes to maintain the proper lie and hand positioning for those important off ice activities.

Blade curve and shape are closely associated with passing and shooting accuracy and the ability to lift the puck at the younger ages. These are much more difficult to select and should be determined by the player's preference and ability to accurately pass and shoot relative to their fundamental abilities and strength. Young players that begin with larger curves typically will have to learn to control their shot and accuracy as they gain strength and improve technique. Many may consider reducing the amount of curve as they become more proficient and stronger. One very significant draw back to large curves is the unfortunate negative impact on backhand passing and shooting which is rapidly becoming a lost art in our game. I have witnessed thousands of occasions were players lack confidence in their backhand skills and have let good scoring and passing opportunities pass them by simply by forcing the puck to the forehand reducing their time and space to execute..

We'll begin with selecting a stick for defenseman. A defenseman's responsibilities are often misunderstood by novice hockey spectators and participants. Obviously, defensemen are responsible for defending their zone and to do so they need to make quick decisions and be very strong on the puck and minimize turnovers in their zone. Good defensemen will use an array of stick checking techniques to accomplish turnovers, disrupt the play and regain possession for his team. Unfortunately, in youth hockey defensemen are most likely not the most gifted puckhandlers and often that's precisely why they are playing defense. In addition the defensemen have very significant offensive responsibilities as well. The most important is to regain control of

the puck in the defensive zone and begin the transition to an offensive attack by making a strong, accurate and confident breakout pass to a forward again avoiding a turnover. After his team successfully gains the offensive zone; the defenseman's responsibilities shift to maintaining the offensive attack by keeping clearing attempts in the offensive zone and avoiding turnovers at the offensive blueline leading to odd man rushes against. His last responsibility is to create offense or score from the point or by joining the offensive attack when appropriate.

Now imagine a defenseman with comparatively weak puckhandling skills a smaller blade or improper lie that cannot be strong on the puck consistently and cannot fulfill his responsibilities, compared to his forechecking opponent with a full size blade on his stick and potentially stronger puckhandling skills. He and his team are significant disadvantage. Therefore, I want my defenseman to use full size stiffer sticks allowing them the greatest opportunity to succeed controlling the puck, accurately passing and taking strong shots when the opportunity arises. In addition I like my defensemen's stick to be slightly longer (½" – 1") giving them better range for stick checks.

Forwards are any team's primary scoring threat and they should consider stick selection carefully as well to meet their scoring responsibilities. Forwards must dominate puck control to create shooting opportunities and ultimately score. If forwards are competing with ill fitting smaller sticks they simply will not win enough puck battles, maintain adequate control or take the shots required to accomplish their goals of scoring. All centers should put themselves at an advantage to win more draws leading to more possessions by playing with the largest stick blade they can handle. Proper lie is also critical for centers allowing them to optimize the amount of blade positioned on the ice at a face-off. Hockey today is quicker with reduced time and space for shooting. In particular the slapshot has gone the way of the straight wood stick. Simply put the slapshot is generally inaccurate with too slow of a release and it requires too much space to take it. Forwards are usually shooting in traffic and need to take a quick, hard and accurate wrist, snap and the often forgotten back hand shots.

Understanding the characteristics and responsibilities of the forwards leads me to recommend properly prepared and fitted full size senior sticks or intermediate shafts with senior blades to PeeWees. I believe that young players should be using wood sticks providing them with the enhanced "feel" of the puck maximizing their development opportunity and skill acquisition.

While I can't recount any personal experience I have had using composite sticks myself in competitive hockey, I can share my son's experiences. When my son was young he played through PeeWee with senior wood sticks at my advice while developing proper shooting, stickhandling and passing skills without the added benefits of composites. At the beginning of his Bantam career he began using the senior composite shafts and experimented with several blade styles. With a foundation of solid skill technique developed with a wood stick, he was then able to really benefit from the flex features inherent in composite sticks. While he never became exceptional at all of the puckhandling skills, he did become an above average stickhandler, an excellent passer and an exceptional shooter. He has since tried one piece sticks or different types of shafts through Midgets and Juniors and has now returned to wood sticks and claims he prefers the "feel" of wood.

In conclusion, I believe that junior sticks are appropriate at the younger levels. However, I would encourage all players to advance to intermediate or senior sticks at or before peewee. I would also encourage the use of wood sticks while learning the fundamental puckhandling and shooting skills. For those of you that play golf, you should be able to understand the impact or advantage that composite or oversized equipment has had for the casual golfer. The same concepts apply

here. This equipment is simply more forgiving and does not improve a golfers fundamental swing deficiencies or strength. Over the years I have been faced with stern resistance from both players and parents when I suggest replacing their $100 composite stick with something I feel will help the player and the team. Unfortunately, parents are “financially invested” and the player is “emotionally invested” in the stick they purchased or chose often without any guidance. As a result of the durability and expense of the composites it is not unusual to see players use these sticks for 2 or 3 seasons while growing out of the length, lie and blade size putting them at a competitive and developmental disadvantage. However, for those that have taken my advice they experienced improved puckhandling and shooting skills over time and they have not regretted the minimal expense to do so.

My teams are no different than any other PeeWee team we will compete against when it comes to stick selection. I simply want to put my players at an advantage over their opponents while developing their skills and build their confidence whenever and however possible. The new standard of play mandated by USA Hockey has and will continue to put a premium on puckhandling, passing and shooting skills and I, as a coach, am responsible for developing these skills.

As a side note, I have often wondered how many good fielding 300+ hitting minor league baseball players fail to make the majors because they could not successfully transition from the more forgiving, lighter, “livelier” aluminum bats to the wood bats required in the majors. Maybe they would have developed better fundamental swings over their amateur careers had they never used the new technology?