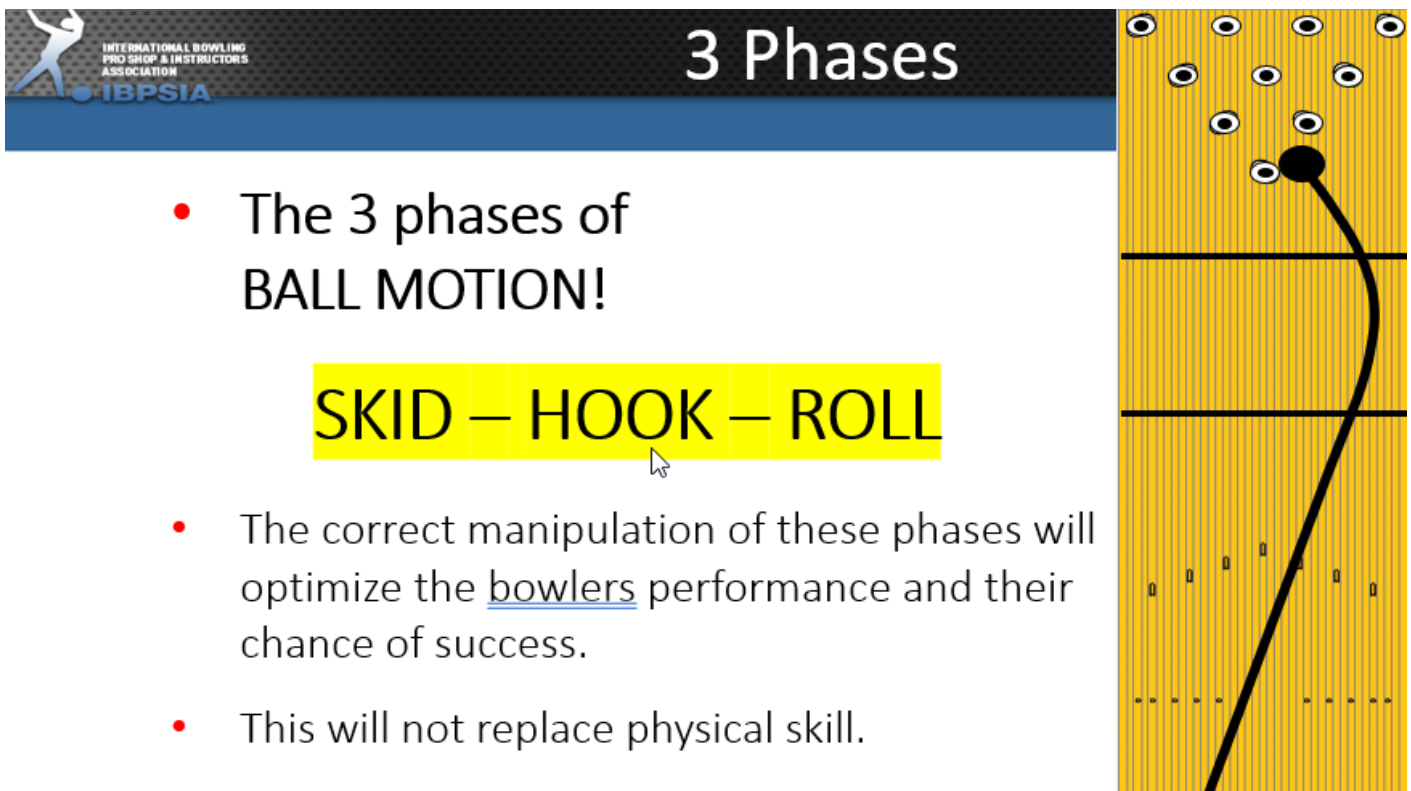


# Here is the understanding of the 3 phases of the hook that the ball must go through!

1.



**3 Phases**

- The 3 phases of BALL MOTION!

**SKID – HOOK – ROLL**

- The correct manipulation of these phases will optimize the bowlers performance and their chance of success.
- This will not replace physical skill.

-Phase 1 of the lane is the front part, which goes from the foul line to 30 feet.

-Phase 2 is the mid-lane area, which ranges from 25 to 45 feet.

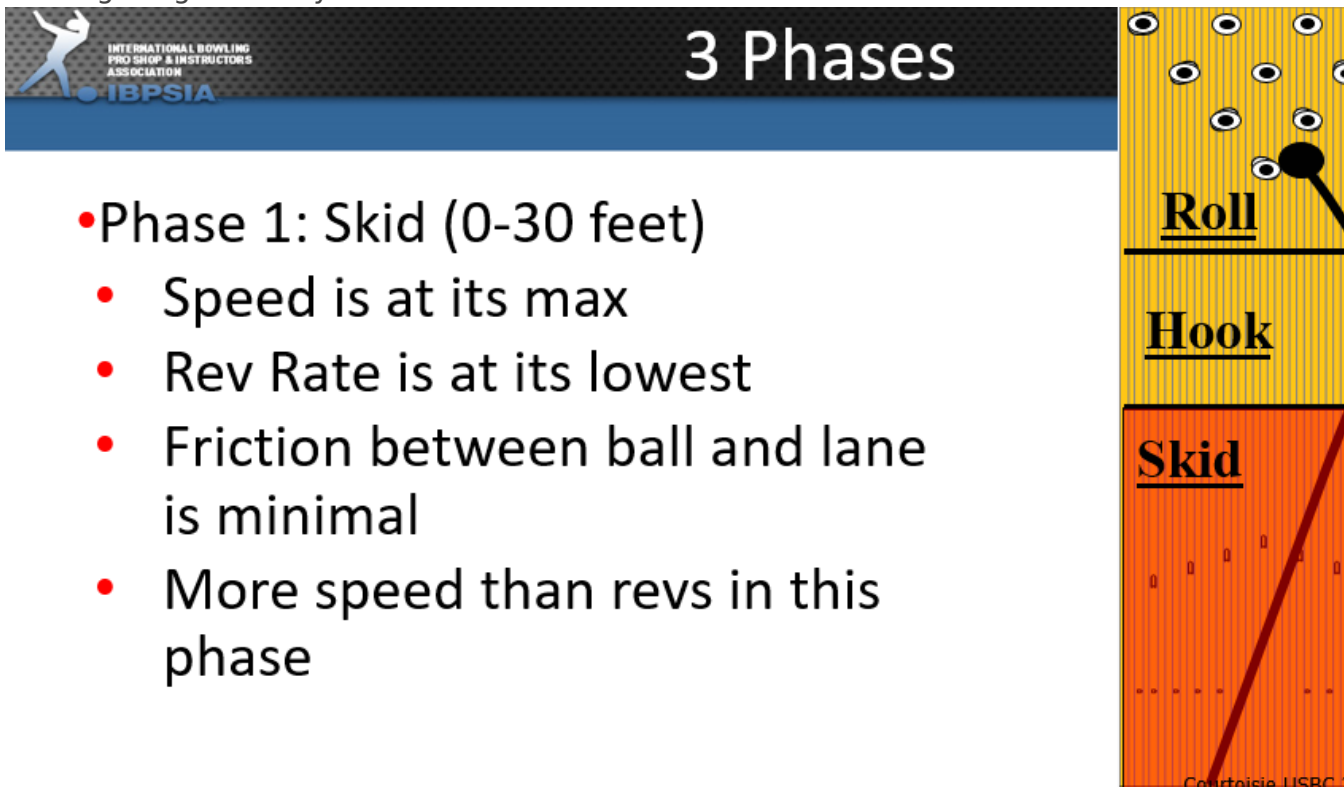
-Phase 3 is the back end of the lane, from 45 feet to the end of the pin deck.

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# Phase 1 - Skid Phase

During this initial phase, the bowling ball is primarily sliding down the lane.

- The ball's **speed is at its maximum**, especially **right at the release**.
- Its **revolutions (rotation)** are at their lowest.
- The **ball's speed is always more dominant than its revolutions** at this stage.
- Additionally, the **friction contact point with the lane is at its minimum**, meaning the ball is gliding with very little traction.



**3 Phases**

- Roll
- Hook
- Skid

Courtesy USBC

- Phase 1: Skid (0-30 feet)
  - Speed is at its max
  - Rev Rate is at its lowest
  - Friction between ball and lane is minimal
  - More speed than revs in this phase

# Phase 2 - Hook Phase

In this phase, the ball begins to hook.

- It needs to **slow down in order to change direction**.
- The **revolutions (rotation)** of the ball **increase as it starts to turn**.
- The **friction contact point with the lane increases** during the hook, allowing the ball to grip the surface more effectively.
- However, **the ball still continues to slide slightly** during this phase — it hasn't fully transitioned into rolling yet.

- Phase 2: Hook (25-45 feet)
  - Speed decelerates
  - Revs increase
  - Friction between and lane increases
  - Ball starts to change direction
  - In this phase, the ball is changing direction but it is still skidding slightly.



## . Phase 3 - Roll Phase

In this final phase, the ball transitions into a full rolling motion.

- The ball is now at its **lowest speed**.
- The **friction contact point with the lane is at its highest**, and its **revolutions (rotation)** are at their maximum.
- This is the phase where the ball must **transfer all its stored energy into the pins**, maintaining its trajectory through impact.
- Ideally, the ball continues through the pin deck and **finishes in the middle**, maximizing pin carry and scoring potential.

