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2 **The Best in the World**

3 **The Best in the World...in training**

4 **What does it take?**

Objective of the Start:

- Get maximum speed going FORWARD
 - Jump forward, not up!
- Maintain speed through the air AND entering the water
 - Great entry
- Do both of those quickly!
 - Reaction time

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Jump Forward, Not Up!

What to look for at take-off:

- Back is lower than horizontal
- Shin line is horizontal
- Eyes looking at water
- Knee low

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Jump Forward, Not Up!

Take-off Angle!

What to look for at take-off:

- Back is lower than horizontal
- Shin line is horizontal
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- Knee low

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Take-off Angle

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Take-off & Entry

The take-off angle also affects the entry

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Take-off & Entry

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The Entry

- Great speed off the blocks doesn't mean a thing without a great entry
- Enter through the smallest hole
- Shallow angle
- Perfect streamline - fingertips to toes
- Holding body line through the core is crucial!!

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The Entry

- Common Mistakes that reduce speed:
 - Back bends on entry
 - Legs bend up
 - Legs drop down
 - Pike position
 - Legs aren't together
 - Toes not pointed
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The Entry

- Drills can help a swimmer get a good sense of the body tone needed to have great entry

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The Entry: Advanced

- From observations of our National Team:
 - A VERY slight pike before entry can be beneficial to the entry
 - The forces acting on the body upon entry can straighten out the body naturally
 - The challenge...
 - This slight pike is created by an arched upperbody position just after take-off and then a mid-air readjustment before entry
 - How do you teach this??
- 16  **Start Position**
- What start is best?
 - Grab Start
 - Track Start, front-weighted
 - Track Start, rear-weighted
 - Swimmer must be comfortable and practiced in whichever start chosen
 - The start position must get athlete to the great take-off angle and entry!!!
- 17  **Grab Start**
- Simplest start
 - Not very fast to take-off position
 - Tendency for too much focus on throwing the hands and head
 - Leads to jumping upward
- 18  **Grab Start**
- 19  **Track Start**
- Generally faster reaction time than grab start
 - Rear leg push helps body get to take-off position
 - Feet should be shoulder width apart, pointing forward!
 - Rear foot should be close to under the hips
 - Use arms to help pull the body forward...
 - Thumbs should be around block (not on top of it) to get the most pulling power
- 20  **Using the Arms**
- How to use the arms most effectively:
- Pull towards body to tip body forward
 - Pull from core/body, not from hands
 - Don't push away from the block
 - Can lead to jumping upward
 - Leg push will over-power arms anyway
- 21  **Track Start (front-weighted)**
- Be careful not to overthrow with head/arms
- 22  **Track Start (rear-weighted)**
- A lot of forward velocity coming off the blocks
 - Rear leg push and arm pull gets body to take-off position
 - Pull with the arms, don't push!!
- 23  **Track Start (rear-weighted)**
- Have to be able to get arms back up quickly
 - Start position is crucial (straight arms, weight over rear leg)
 - Accelerates so fast that it's hard to jump upward
- 24  **Track Start (rear-weighted)**
- 25  **Front vs. Rear-weighted**
- Other factors affecting start position:
 - Flexibility
 - Rear weighted start requires some hamstring flexibility, otherwise rear leg is bent a lot and hips are weighted too far back
 - Body Type
 - Body proportions (torso vs. leg length)?

– Arm strength

- Rear-weighted start is dependent on arm pull

26  **A Great Start:**

- Maximum forward speed from a great take-off
- Speed is maintained through the entry
- Start position quickly gets swimmers to take-off position

27  **A bad start can really hurt**