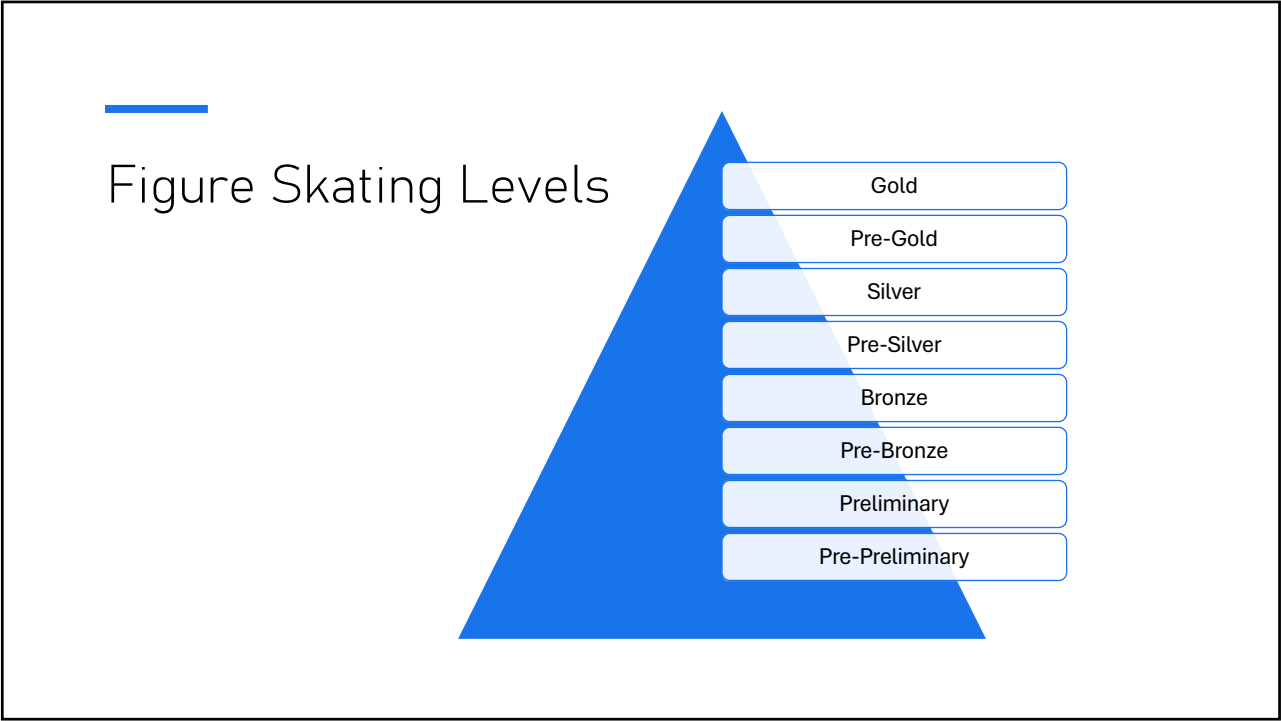


1


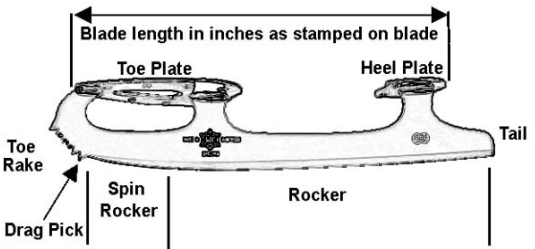




3

The Blade



- Convex anterior to posterior – Rocker
 - 3/16 – 5/8 thick
- Concave medial to lateral – creating the inside and outside edge
 - Ice dancer, synchronized skating
- Size of toe pick can help with torque



4

Boot

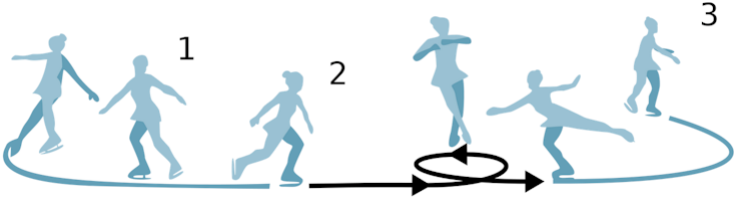
- Layers of leather molded together
 - Heat molded to athlete's foot
 - Stretched up to ½ size, "punched out" for unloading
- Newer boots for high level athletes include carbon fiber materials and 3D foot modeling for entirely custom figure skates



5

Biomechanics

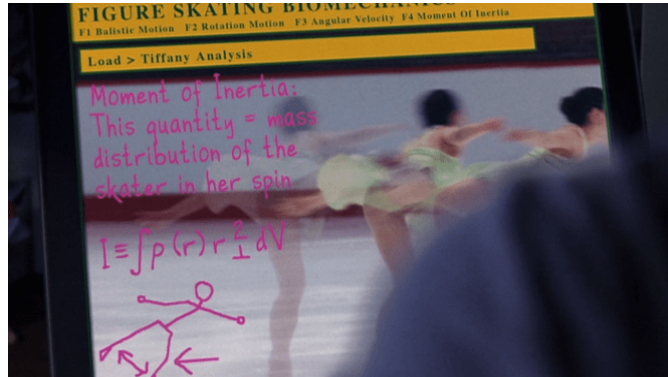
- High impact landings
 - Figure skating landings from jumps are 5-8x their body weight
- Every jump has 4 parts
 - Take off
 - Rotation
 - Landing



6

Biomechanics

- Spinning
 - Preparation
 - Entry
 - Spin
 - Exit



7


Sport Specialization – Sugimoto et al

- 62% of female figure skaters in New England region were specialized
- Association between lower back injuries and chronological age – 21% risk
 - Research is showing professional athlete's who participate in other sports in high school have a lower rate of injury

8

Case Study

- 13 yo female
- Acute lower back pain, insidious onset.
- Double jumps and her Beilman spin
- Practicing 1-3 hours a day, 4 days per week, off ice 2x/week.
- 4 hours of individualized coaching per week
- Also participating in synchronized skating 2 hours per week

A photograph of a female figure skater in a black and white costume performing a high jump on an ice rink. She is in a vertical position with her arms and legs extended upwards, reaching towards the ceiling. The ice surface is highly reflective, showing a clear mirror image of the skater below her. The background is dark, likely the interior of an arena.

11/24/2025

9

9

Case Study

- 15 yo female with acute ankle sprain
- Working on triple jumps in new boots
- Skating 4 hours per day 5x/week, off ice training 1 hour, 5x/week
- In a home school program

11/24/2025

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