



TECHNIQUE SUMMARY: The A's Strathcona Nordics Head Coach Andrea Stapff

Importance of Technique

From a physiological and biomechanical perspective:

Performance = Capacity of Energy System – Technique Efficiency

We must also manage psychological and environmental factors.

Technique Fundamentals – Common Language

- **Body position**
- **Balance**
- **Timing**
- We can break each parameter down into A's, B's, C's – focus first on fundamentals and ensure **A's are SOLID**

Body Position – A: Ready Position

- Ankles flexed and forefront of foot weighted
- Slight knee and hip flexion
- Pelvis tucked under hips
- Hips square and level
- Chest Open
- Slight flexed shoulder and moderately flexed elbow with arms ready for forward momentum
- Head erect and vision ahead

Balance – A: One Ski

- One ski only
- Controlled and deliberate transition from one ski to another
- Hip, knee and shoulder alignment before and after weight transfer

Timing – Skate – A: Coordination

- Correctly timed pole plant relative to weight transfer
- 1-skate and 2-skate at different times, offset at same time (1-3 rhythm)
- Timing of pole release and kick
- Smooth, rhythmic movement
- With or without poles to same standard and on both sides

Timing – Classic – A: Coordination

- Striding is opposing arm and leg, kick when centre of mass atop foot to drive force down
- Kick double pole, arms forward with kick
- Double pole, hands and hips meet at ‘tallest’ point, come down together
- Smooth, rhythmic movement
- With or without poles to same standard and on both sides

Skating Gears

- 1st Gear – Offset
- 2nd Gear – 1-skate
- 3rd Gear – 2-skate
- 4th Gear – Free skate
- Given general technique requirements associated with terrain, gear selection and timing of transitions are specific to each skier

Skating Sub-Gears

- Each gear has a sub-gear
- Specific sub-gear used is generally dictated by length of pole stroke, subsequently determining tempo
- Short 1-skate vs Long 1-skate
- The best skiers seamlessly transition through gears and sub-gears according to their speed, as determined by the terrain and conditions

Classic Gears

- 1st Gear – Diagonal striding
- 2nd Gear – Kick double pole
- 3rd Gear – Double pole
- Given general technique requirements associated with terrain, gear selection and timing of transitions are specific to each skier

Classic Sub-Gears

- Each gear has a sub-gear
- Specific sub-gear used is generally dictated by length of pole stroke, subsequently determining tempo
- Short DP vs Long DP
- Striding vs Running
- The best skiers seamlessly transition through gears and sub-gears according to their speed, as determined by the terrain and conditions