

1, 3, 5 - Lesson plans for Adult Skiers - Fitness and Efficiency

5 Fitness based cross-country skier - Classic Technique – 5x 1hr30 mins sessions

Nordiq Canada offers a series lesson plans for training adult recreational/fitness skiers in the classic technique with an emphasis on technical efficiency and application towards building greater personal ski capacity and community competition readiness (Loppet participation/racing). This delivery of this plan is consistent with the coaching competencies acquired through the Train-to-Train workshop.

The presumption is that skiers will be familiar with the different classic techniques and possess a foundational ski competency (diagonal stride, climbing, descending) as addressed in the Development lesson plan series.

!Attention! - Please note that the efforts/intensities suggested within the following session plans should be adapted to the fitness and capacities of the group and individual participants. Anaerobic repetitions/workouts are not recommended for master skiers.

Session 1

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|---------------------------|--|---|---|-------------------------------|
| Session Objectives | Optimizing energy output <ul style="list-style-type: none"> Refining power position and balance Getting the best return on effort Understanding pacing <ul style="list-style-type: none"> Identifying and feeling sustainable efforts | | | |
| Practice Plan | | | | |
| | Outcome | Terrain | Drill suggestions | Duration (approximate) |
| Warm-up | Raising body temperature, activation of muscles Mobility, increasing range of motion | Easy tracked trail Tracked – flat transitioning into incline (max. 6% grade), 30-45 secs in length | Easy ski Double Pole to Diagonal Stride at easy effort <i>*Encouraging greater range of motion and transition between techniques.</i> | 10 mins 10 mins |

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| Skill Development Power position and Power line | Moving the Centre of Mass (COM) forward, reducing vertical movement | Flat tracked trail | Explanation & demonstration of power position and power line for Diagonal Stride (DS) and Double Poling (DP) <i>*Emphasis on dynamic nature of technique and balance</i> | 10 mins |
| | | Tracked trail, false flat down | Acceleration Drill I Over 50-75m, skiers should continuously accelerate down the track performing diagonal stride, only reaching top speed at the end. Alternate repeats with double poling | 12 mins |
| | | | Acceleration Drill II As per above, however skiers should be encouraged to only perform diagonal stride while maintaining rhythm with increasing speed. Alternate repeats with double poling. | 12 mins |

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| Fitness Development | Pacing Understanding how Rate of Perceived Effort (RPE) and rate of respiration act as indicators to applying effective effort | Moderate tracked climb Skiers should be able to diagonal stride throughout | Pyramid Challenge 2 sets of variation of: 15 secs, 30secs, 60 secs, 90 secs, 60 secs, 30 secs, 15 secs. Rest between repetitions is time required to return to start. 3-5 mins rest between sets 15 sec start is to encourage skiers to start (a bit too) fast and settle into appropriate pace identifying speed, sensation and breathing cues. <i>*Skiers are reminded to go at their own appropriate pace/effort. Framed as a personal challenge.</i> <i>Skiers are encouraged to find the consistent effort/pace that they can maintain for all repetitions.</i> | 30 mins |
| Wrap-up | Understanding training benefits of long & fast efforts. | | Review cues and importance of respect personal capacity/pace | 5 mins |

Session 2

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| Session Objectives | The importance of the timing of movements <ul style="list-style-type: none"> • Phases of technique • Developing greater speed of movement • Developing more effective application of force | | | |
| Practice Plan | | | | |
| | Outcome | Terrain | Drill suggestions | Duration (approximate) |

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| Warm-up | Raising body temperature, activation of muscles | Easy tracked trail | Easy ski | 10 mins |
| | Mobility, increasing range of motion | Flat tracked trail | Slow motion skiing (technique of choice) <i>*Focus on the phases of movement, provide cue for each phase (break down each phase: reposition phase, power position and pole plant, etc...)</i> | 15 mins |
| Skill Development Power position, Timing | Developing speed of motion | Flat or undulating terrain | Speed Zones Skiers ski incrementally faster in each segment of a loop, no faster than fastest speed they can maintain synchrony and coordination. | 10 mins |
| | | | Synchroski Drill Ski behind another skier of similar ability and try to follow their tempo <i>*key in on pole plant</i> | 10 mins |
| | | | Pursuit Loop Multiple skiers chase each other around a loop in attempt to catch the person in front (one point for each person they pass). <i>*To the technical cues as means to effective technique.</i> | 10 mins |

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| Fitness Development | Threshold | Variable loop 500-1000m | Cadence Ski Skiers ski a 500-1000m loop, 3-4x at a cadence quicker than their normal/comfortable default tempo Rest between reps according to feeling <i>*To the range of motion relative to speed. Relationship between endurance and muscular force</i> | 30 mins |
| Wrap-up | Review on how retaining momentum can be impacted by cadence | | | 5 mins |

Session 3

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|---------------------------|---|--------------------|--|-------------------------------|
| Session Objectives | Descending comfortably <ul style="list-style-type: none"> • Maintaining body position in descending • Step turns • Choosing lines • Being around other skiers | | | |
| Practice Plan | | | | |
| | Outcome | Terrain | Drill suggestions | Duration (approximate) |
| Warm-up | Raising body temperature | Easy tracked trail | Easy ski | 10 mins |
| | Activation of workout specific abilities | Easy open slope | Ski Ballet Allowing the skiers to move in a natural, free, and creative manner. Exploring the limitations of movement & equipment | 10 mins |

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| Skill Development Athletic posture/position | Step turns Agility in descending Line choice | Flat terrain Open slope | Flow Slalom Focus on position, moving body through turn, maintaining speed Prison Break Increasing drill difficulties in the following order: Free run to hockey/skidded stop Free run to side slipping Pursuit Cross Skiers start at intervals and try to catch skier in front on single slalom course Double Cross Multiple skiers depart at same time on single slalom course <i>*Skiers are encouraged to maintain continuous activity throughout drills climbing back up at own pace.</i> | 60 mins |
| Fitness Development | Endurance | | | |
| Wrap-up | | | | 5 mins |

Session 4

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|---------------------------|--|----------------|--------------------------|-------------------------------|
| Session Objectives | Transitions <ul style="list-style-type: none"> From one technique to another From one terrain to another | | | |
| Practice Plan | | | | |
| | Outcome | Terrain | Drill suggestions | Duration (approximate) |

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| Warm-up | Raising body temperature, activation of muscles | Easy tracked trail | Easy ski | 10 mins |
| | Mobility, increasing range of motion | Flat of undulating terrain | Technique Zones Applying a specific technique in the require segment of a short loop | 15 mins |
| Skill Development Power position and power line, Timing | Feeling the efficiency of effort and selecting the best technique | Flat leading into a hill | Double Pole Till No More Drill Beginning on flat, skiers DP as far up the hill as possible | 15 mins |
| | | Climb with increasing gradient | Technique Zones On hill | 15 mins |
| Fitness Development | Racing pace | Variable loop 2-3 mins | Team Relay (teams of 3) Each skier must complete at least three loops. Encourage skiers to go as fast as they consistently can without compromising technique. Select best expression of technique to environment. | 35 mins |
| Cool-down | Review how inefficient technique saps energy | | | 5 mins |

Session 5

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| Session Objectives | Fast power | | | |
| Practice Plan | | | | |
| | Outcome | Terrain | Drill suggestions | Duration (approximate) |

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| Warm-up | Raising body temperature, activation of muscles | Easy tracked trail | Easy ski | 10 mins |
| | Mobility, increasing range of motion | | Acceleration Drill I Over distance of 50-75m, skiers should continuously accelerate down the track while double poling | 15 mins |
| Skill Development Power position | Building strength into technique | Flat tracked terrain | Tractor-Pull (DP) Emphasizing proper timing in muscle contractions and avoiding dead spots in technique | 15 mins |
| | | Flat leading into hill | High-Point Drill (DS) Limited number of strides | 15 mins |
| Fitness Development | Maintaining momentum | Two variable terrain loops with short climbs (45 secs & 90 secs) | Team Relay (teams of 2) Each skier alternates between 90 sec and 45 sec loop. Skiers are encouraged to carry and maintain speed into climbs and to accelerate over the top before descents. | 35 mins |
| Wrap-up | Ski, ski, ski! | | | 5 mins |