

Appendix 1 – Performance Indicator and Action (PIA) Charts and Action Planning Sheets

| Performance Indicators and Actions – Long Turns (Level 3/4) | |
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| | Performance thread prerequisites |
| Equipment Environment Physical Psychological | <ul style="list-style-type: none"> • Piste focused skis that are well serviced 13m-25m (Eq) • Focus and continued concentration on the correct action point during the run (Ps) • Athlete hydrated with well-managed energy levels (Ph) • Athlete strong enough to cope with the forces generated (Ph) • The right arousal level for the performer in a particular circumstance (Ps) • Willingness to be versatile and adapt to snow and terrain within the run (Ps) • Steep red/black run, clear spill zones and few people (En) |

| INDICATORS | Control of line | Control of speed |
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| Encourage <i>(Accurate outcome)</i> | <ul style="list-style-type: none"> • Two clean lines in the snow (unless the task is otherwise) • Tighten or open the radius of the arc as required by skis, terrain and task • Two skis parallel throughout the turn • Skis take a different line to CoM from the top of the turn | <ul style="list-style-type: none"> • Consistent speed, carried across the hill • Controlled speed • Have a clear exit from one turn to the next that carries speed from arc to arc |
| Discourage <i>(Inaccurate outcome)</i> | <ul style="list-style-type: none"> • Skidded turns, unless task specific • Relying on the side cut of the skis – park and ride turns • Divergent/convergent skis • Corridor, radius or arc length that don't match the task | <ul style="list-style-type: none"> • Increase in speed down the hill throughout the run • Turns that are so slow the CoM is unable to diverge from the line of the skis |

PERFORMANCE ACTIONS – what performers can do to achieve the desired outcomes

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| Tactical | <ul style="list-style-type: none"> • Use appropriate radius and arc length to control speed; set a corridor and a number of turns • Correct approach to account for equipment and snow conditions e.g. steep, fast piste – use rotation above the fall line to help tighten the radius, clean carve the remainder of the turn: GS skis – wider corridor; SL skis – narrower corridor | | | |
| Technical | Throughout Turn | Build | Work | Release |
| Steering Elements | <ul style="list-style-type: none"> • Build pressure and release progressively through manipulation of edge angle • Limit active rotation unless the task is to steer/smear/drift/stivot the top of the turn • Feel pressure predominantly on the outside ski • Steer skis across the line of the CoM in transition, this inevitably builds edge angle at the top of the next turn • Release the edge angle/pressure progressively towards the end of the turn | | | |
| Body Management | <p><i>Movements flow throughout the run. The lower and upper body move in different but coordinated ways. The timing of these movements results in the separation of the line of the skis and the CoM. These movements happen from one turn to the next, not within a single turn.</i></p> <ul style="list-style-type: none"> • As the skis and CoM diverge after transition, stretch the legs to keep the skis in contact with the snow, taking care to control the tipping of the upper body. This creates a platform through which the skier resists and manages the forces within the turn. • Re-centre the CoM fore/aft over the feet in order to work effectively. • Allow the large powerful joints to be deep inside the line of the skis. Use the lower joints to moderate and fine-tune the edge and rotation. • The hips follow the direction of travel of the CoM of the skier, this sees the hips fairly square to the skis through the high load phase of the turn. • Keep outside leg long during high load phase with load through the middle of the ski. • Develop lateral separation as the ski is fully loaded. • Use an accurate pole touch to help with timing, separation and flow. • Carefully control vertical movements in transition to keep skis on the snow and be effective early in the next turn. • Leg flexion may be required to facilitate lateral movements of the legs and upper body in transition as the load is released. | | | |

| Performance Indicators and Actions – Short Turns (Level 3/4) | | | |
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| | | Performance thread prerequisites | |
| Equipment Environment Physical Psychological | <ul style="list-style-type: none"> • Piste focused skis that are well serviced, 13m–25m (Eq) • Focus and continued concentration on the correct action point during the run (Ps) • Athlete hydrated with well-managed energy levels (Ph) • The right arousal level for the performer in a particular circumstance (Ps) • Powerful enough to cope with the forces generated while remaining agile and reactive (Ph) • Steep red/black run (En) | | |
| Indicators | Control of line | | Control of speed |
| Encourage (Accurate outcome) | <ul style="list-style-type: none"> • Rounded, symmetrical line • Limited/accurate corridor for skis and terrain • Two skis largely parallel, consistent stance width • Skis travelling along their length from the fall line • Skis take a different line to CoM from the top of the turn | | <ul style="list-style-type: none"> • A speed that allows skis to take a different line to CoM • Have a clear exit from one turn to the next that carries speed and momentum from arc to arc • Consistent and controlled speed throughout the run |
| Discourage (Inaccurate outcome) | <ul style="list-style-type: none"> • Zig-zag or J-turns • Divergent/convergent skis • Uncontrolled skids or down stems • Loss of ski/snow contact • Overly wide or narrow corridor | | <ul style="list-style-type: none"> • Too slow • Speed checks at end of turn • Increase in speed down the hill throughout the run |
| PERFORMANCE ACTIONS – what performers can do to achieve the desired outcomes | | | |
| Tactical | <ul style="list-style-type: none"> • Control speed with line and skilful skidding through the arc rather than excessive skid or check at the end of the turn • Correct approach to account for equipment and snow conditions e.g. bullet ice aim for precision and less speed, GS skis make turns with greater vertical distance, SL skis more towards slalom end of the spectrum • Be clear on the most effective mixture of the steering elements to achieve the desired type of short turn (slalom, grippy, punchy etc.) • Be clear on the corridor, radius and arc length for the run | | |
| Technical | Throughout Turn | BUILD | WORK |
| Steering Elements | <ul style="list-style-type: none"> • Build pressure and release progressively through manipulation of edge and rotation • On steeper terrain, the skis can be light through the top part of the turn; edge and rotation are still used to prepare the skis to be loaded • Feel more pressure on the outside ski through the middle/end part of the turn • In transition release the skis on a line which crosses that of the CoM, this will inevitably build edge angle in the new turn • Keep skis on the snow even though they may be light in transition | | |
| Body Management | <p><i>Movements flow throughout the run. The lower and upper body move in different but coordinated ways. The timing of these movements results in the separation of the line of the skis and the CoM. These movements happen from one turn to the next, not within a single turn.</i></p> <ul style="list-style-type: none"> • The lower body will move more laterally than the hips and shoulders; this is lateral separation, • Steer the skis more across the hill than the upper body; this is rotational separation that will be more apparent than in longer turns. • As the skis and CoM diverge after transition, stretch the legs to keep the skis in contact with the snow, taking care to control the tipping of the upper body. This creates a platform through which the skier resists and manages the forces within the turn. • Re-centre the CoM fore/aft over the feet in order to work effectively. • Keep outside leg long during high load phase with load through the middle of the ski. • The hips follow the direction of travel of the CoM of the skier; this sees the hips fairly square to the skis through the high load phase of the turn. • Carefully control vertical movements in transition to keep skis on the snow and to be effective early in the next turn. • Leg flexion may be required to facilitate lateral movements of the legs and upper body in transition as the load is released. • Use a strong pole plant to control the upper body, aiding the separation through transition. | | |

Performance Indicators and Actions – Bumps (Level 3/4)

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| | Performance thread prerequisites |
| Equipment Environment Physical Psychological | <ul style="list-style-type: none"> • An approach that effectively adapts to the visibility, terrain, performance context (En/Ps) • Focus and continued concentration on the correct action point during the run (Ps) • Choose a line and commit to it, as indecision will ruin the flow. (Ps) • The right arousal level for the performer in a particular circumstance (Ps) • Athlete hydrated with well-managed energy levels (Ph) • Match an approach that suits physical ability (Ph) |

| INDICATORS | Control of line | Control of speed |
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| Encourage (Accurate outcome) | <ul style="list-style-type: none"> • Fall line descent • Two skis taking the same line • Skis on the snow, unless deliberate • Ability to switch inside, outside and direct line in open bumps and in rut lines | <ul style="list-style-type: none"> • A consistent speed • Use of line and skid to control speed • Vary speed as the terrain dictates • A flowing descent • Use of impact to control speed should be deliberate and not an unavoidable default |
| Discourage (Inaccurate outcome) | <ul style="list-style-type: none"> • Traversing • Uncontrolled air time • Inappropriate line for the terrain • Using the inside line on every turn | <ul style="list-style-type: none"> • Too slow • Stopping • Side slipping down the line • Speed without quality |

PERFORMANCE ACTIONS – what performers can do to achieve the desired outcomes

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| Tactical | <ul style="list-style-type: none"> • Match the method of speed control to the terrain: line, pressure control, skid, scrape, check. • Use line as much as possible to control speed within a fall line descent. • Adapt to the snow conditions and terrain. Consider: Are the bumps soft/hard? How big are they? Can you change lines? Can you easily get out of a trough? Can you avoid the trough? • In spaces between open bumps make turns, don't go straight. • Look for ways to use the terrain to help steer the skis. |
| Technical | <ul style="list-style-type: none"> • If skiing a direct line, use rotation late in the turn to check as the skis come over the col. • When skiing a round line, use rotation gradually throughout the arc to control speed avoiding a scrape down the fall line. • Ride the banks when skiing a round line; the skis may be tilted, but the edges are not necessarily engaged. Lateral pressure may come through the base of the skis as much as the edges • Manipulate pressure to control speed e.g. maintain pressure as the skis impact the face of the bump to reduce speed or apply pressure on the back side to speed up. Engage the tips of the skis after the turn to get them back on the snow. • The skis move laterally, vertically and fore/aft and will not always remain underneath the skier. • Spread the pressure more evenly between two feet than in piste skiing especially during impact. There will still be dominance on the outer ski during turns. |
| Steering Elements | |
| Body Management | <ul style="list-style-type: none"> • Use a narrow stance to facilitate speed of movement (agility) and aid simultaneous edging and rotation. This will also ensure that both skis will hit similar terrain at the same time. • Depending on the line, effect rotation in different ways. E.g. feet and legs provide enough fast but range-limited rotation on the direct line. A more rounded/outside line will require the hips to rotate with the skis as well. • Active fore/aft positioning of the feet to facilitate vertical movements of the legs. The feet should not be trapped behind the hips as the skier impacts the bump because this inhibits leg flexion. The feet need to be back under the body to allow the tips to re-engage with the snow after the bump. • Flexion and extension match the terrain and turns laterally as well as vertically. • The timing of flexion and extension movements will affect the degree, duration and location of pressure in the run. This will have an effect on speed. • Use a strong, accurate and symmetrical pole plant to aid stability and timing. • Calm, upright upper body, strong core; soft, agile legs working underneath vertically, laterally, rotationally. |

| Performance Indicators and Actions – Variables (Level 3/4) | |
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| | Performance thread prerequisites |
| Equipment Environment Physical Psychological | <ul style="list-style-type: none"> • An approach that effectively adapts to the visibility, terrain, performance context (En/Ps) • Focused and continued concentration on the correct action point during the run (Ps) • Athlete hydrated with well-managed energy levels (Ph) • Use suitable equipment both for safety and performance (Eq) |

In the interest of limiting repetition there is a lot of content in the short turn and long turn PIAs that is applicable here.

| INDICATORS | Control of line | Control of speed |
|--|---|---|
| Encourage <i>(Accurate outcome)</i> | <ul style="list-style-type: none"> • Rounded turns unless very narrow • Rhythmical line • Tighten or open the radius of the arc, as required by task or terrain • Two skis largely parallel with consistent stance width throughout • Skis take a different line to CoM from the top of the arc • Use the terrain to help flow | <ul style="list-style-type: none"> • Consistent speed • Ski to the minimum speed appropriate for the snow conditions e.g. in deep snow you need enough speed to prevent the skis from sinking • Have a clear exit from one turn to the next that carries speed from arc to arc |
| Discourage <i>(Inaccurate outcome)</i> | <ul style="list-style-type: none"> • Overly skidded turns • Zig-zag turns/traversing • Park and ride turns • Divergent/convergent skis • Skiing too far round the arc | <ul style="list-style-type: none"> • Such a slow speed that there is no performance to the turns • Uncontrolled speed |
| PERFORMANCE ACTIONS – what performers can do to achieve the desired outcomes | | |
| Tactical | <ul style="list-style-type: none"> • When starting a descent, ski the fall line to generate enough speed to make the first turn. • Use line to control speed rather than excessive skid or check. • Use the correct approach: radius and turn shape would be different in deeper snow where the snow itself slows you down, allowing the skier to spend more time in the fall line. • Use the terrain to help initiate turns. • Use terrain to help control speed e.g. up the side of a gully to slow down. | |
| Technical Steering Elements | <ul style="list-style-type: none"> • Use both edge and rotation to manage pressure within the turn to maintain a rhythmical, flowing descent. • Use accurate flexion/extension of the legs to manage pressure resulting from terrain. • Be prepared to pressure the inside ski more than you might on the piste. • Manipulate the pressure fore/aft on the skis to allow the pitch of the ski to change when turning in deep snow. The skis should pitch up through the end of the turn, reaching their highest point during transition and should pitch slightly down as the skis enter the new turn. | |
| Body Management | <p>Allow the body to flow down the hill by separating laterally and rotationally. This helps to balance against the outside ski and prevents the skier from getting trapped too deep, too late in the turn; travelling too far round the arc.</p> <ul style="list-style-type: none"> • In deep snow, turns can be initiated with the upper body. You don't need the 'platform' that is required on the piste and can afford to get the skis away from the body more freely. • Use an accurate pole plant to help with timing, separation and flow. • In deep or awkward snow it often helps to narrow the stance width | |

| Performance Indicators and Actions – Steeps (Level 3/4) | |
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| | Performance thread prerequisites |
| Equipment Environment Physical Psychological | <ul style="list-style-type: none"> • An approach that effectively adapts to the visibility, terrain, performance context. (En/Ps) • The skier should be aware of the dangers of the run as a whole and the dangers of particular parts of the run. Skiers should be able to recognise the characteristics of the run and ski appropriately, showing more care where needed and more performance where it is safe to do so. (En, Ps) • Focus and continued concentration on the correct action point during the run. (Ps) • Athlete hydrated with well-managed energy levels. (Ph) |

In the interest of limiting repetition there is a lot of content in the short turn PIAs that is applicable here.

| INDICATORS | Control of line | Control of speed |
|--|--|--|
| Encourage <i>(Accurate outcome)</i> | <ul style="list-style-type: none"> • Rounded turns unless very narrow • Rhythmical line • Confident to show airborne and on snow turn initiation • Two skis largely parallel with consistent stance width throughout • Use the terrain to help flow | <ul style="list-style-type: none"> • Speed reflecting the technical difficulty of the terrain • Have a clear exit from one turn to the next that carries speed from arc to arc, unless very narrow |
| Discourage <i>(Inaccurate outcome)</i> | <ul style="list-style-type: none"> • Traversing • Turns that do not match the terrain • Divergent/convergent skis | <ul style="list-style-type: none"> • Uncontrolled speed • Looking for so much security that the skier almost stops after each turn |
| PERFORMANCE ACTIONS – what performers can do to achieve the desired outcomes | | |
| Tactical | <ul style="list-style-type: none"> • Some use of line to control speed rather than excessive skid or check • Use the terrain to help initiate turns • Use terrain to help control speed e.g. up the side of a gully to slow down | |
| Technical Steering Elements | <ul style="list-style-type: none"> • Use both edge and rotation to manage pressure within the turn to maintain a rhythmical, flowing descent • Use accurate flexion/extension of the legs to manage pressure resulting from terrain • Use rotation combined with some edge through the second part of the turn to create some grip and allow the ski to move along its own length • Employ a deliberate lack of pressure at the top of the turn to facilitate rotation of the skis | |
| Body Management | <ul style="list-style-type: none"> • Be prepared to initiate the turn by rotating the upper body down the hill; this is rotational separation • Use a strong pole plant to help with timing, separation and flow • Be solid and steady on the downhill ski; lateral and rotation separation will help with this | |