



MANUAL



SKI EASY MANUAL

Pocket edition



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Due to space limitations, expressions in the grammatical form of the masculine gender written in the manual, are used as neutral and apply equally to both genders.



Why another ski manual?

As it contains all the results of the Erasmus+ project "SKI EASY" and it is the first manual that offers a unified approach to teaching skiing/snowsports. The project partners, together with the International Association for Education and Science in Snow Sports (IAESS), have developed materials that make the work of ski instructors around the world easier, and learning to ski becomes more efficient and fun. With a mobile application that complements this material and is available in most world languages, we transfer the content directly into practice. Becoming a ski instructor using the SKI EASY method means knowing more and taking a step towards excellence in the profession of a ski instructor.

Where fun and learning come together...
SKI EASY begins.

Why in a wallet format?

Because flipping through the booklet and reading the text printed on paper is still the easiest and the most romantic way...

The SKI EASY manual is a concise collection of the most important tips and reminders to refresh your knowledge when working with beginners in winter sports. All advice is based on scientific foundations and practical experience of the authors of the manual.

You can find out more about the project at the end of the manual and on the website.

More about the project:



skieasy.eu

Download the app:



Scan to download

notes



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UNIFIED TEACHING MODEL SKI EASY

The Unified teaching model of **SKI EASY (UTM SKI EASY)** skiing is a simple model of acquiring ski motor literacy. It is a process based on critical stages in the learning process, **motor skills triggers (MST)**, where each stage in learning to ski is particularly important and requires special consideration in the teaching process.

These levels were not selected and presented with the aim of creating a new ski school, but rather to emphasize the similarities and key overlaps of methodology and technique elements of different ski schools around the world.



Coordinated turn

Managing the
center of mass

Changing direction / turning

Sliding, speed control
and stopping

Adaptation / familiarization

The five levels of UTM SKIEASY

The five steps /triggers of motor skills on the one hand thus represent an important guide that we cannot ignore, while they also enable more perceptive and talented students a path to top skiing performance. The outlined levels, which are defined in the following - mainly using the example of alpine skiing, can be generalized and applied to most snow sports in which sliding on snow is the basic movement, e.g. in snowboarding, telemark, cross-country skiing.

The five levels of UTM SKIEASY are explained in detail below, with the selected motor skills triggers defined by the following aspects:

- P** - psychological
- B** - biomechanical
- M** - motor control
- D** - didactic

Adaptation/familiarization

Adapting to the social and physical environment (snow, surroundings, group, peers, ski instructor, didactic tools, etc.) helps to create a positive learning environment for students, a way to trigger learning (mainly motor) transfer and motivation to continue learning. Based on games for snow adaptation, social and emotional intelligence is enhanced, attention is diverted from noises and other distracting factors to activity.

The individual adapts to an “extended foot” and develops a sense of body weight distribution over the entire skis. By moving the center of mass of the body while sliding on a slight slope to the left/right and forward/back, they recognize changes in the sliding speed and gain control over the sliding speed of the skis.

Through games and exercises for adapting to the snow, students learn and adopt the rough forms of motor patterns and a balanced position (dynamic balance) in a playful, relaxed, and unobtrusive way, which is an important prerequisite for safe sliding on slopes. Gradually, the inner feeling to control the skis as an extended foot can develop.

The student gets to know the new environment and, in interaction with the environment and the group solve their first motor tasks through movement and sliding on a specific surface – the snow. This learning process provides a rich experience and encourages the process of acquiring new motor skills. The most effective learning method at this step are motor games in a didactical setting.

Sliding, speed control and stopping

Sliding represents loss of control and fear of falling, while gliding brings joy to a child. The acceleration during sliding is a powerful sensory experience. Through step-by-step approaches and exercises, we help students overcome fear and enjoy the thrill. Speed can be associated with fear, so it's important that they develop an awareness of where and when to stop from the very beginning.

The wedge position is best suited for initial changes of direction, and it also helps the student to control speed. This is realized because of friction between and edge angle, skis, and snow. The greater the angle, the slower the speed. In the wedge position, both skis are on the edges and move laterally in relation to the direction of travel, which allows the skier to regulate speed. By pushing the ski into the plow position, it increases the friction and can therefore come to a controlled stop.

The student adopts the motor pattern of parallel, wedge and plow position and the feeling of control on skis; acquires a feeling for changing direction along the fall line and stopping in the plow position at the end of the slope or on flat terrain.

Sliding is the basis of skiing, which allows us to take advantage of what the equipment offers us; a prerequisite for upgrading and adopting more demanding forms of sliding is an adequate speed, which depends on the inclination of the terrain; the ratio between the speed of execution of certain movements during sliding usually changes in the ratio: an inferior skier- faster movements-slower sliding or a more capable skier: slower movements - faster sliding.

Changing direction / turning

Changing direction is one of the key elements of most snow sports. For an inexperienced skier who feels confident crossing a slope, the transition over the fall line naturally presents a problem and the tension increases until the skis return to a stable position. The selection of the appropriate moment to start the change of direction and the transition over the fall line remains an important element of the quality of skiing up to the top performance.

Changing direction determines a number of biomechanical characteristics in skiing. The sliding speed and speed control, the width of the sliding corridor, the accuracy of guiding the selected trajectory and, finally, the safety of sliding over the selected terrain depends on this. For experienced skiers and racers, it determines a direct struggle against time and has a significant impact on the result.

Acquiring the feeling for starting a change of direction is a very important trigger in upgrading the motor skills necessary to successfully master snow slopes. With selected exercises for coordination of movement - agility, we can make a big contribution even before going out on the snow. Motor transfer (vertical and lateral) will enable the individual to solve this motor problem faster.

From a didactical point of view as well, this motor skill trigger is extremely important. When students adopt the awareness to pass the fall line - which is carried out in the initial phase by loading and sliding the skis - this is something that they can control and manage, the learning and teaching process can proceed much faster and safely. The dynamics of teaching and the selection of exercises and games increase rapidly.

Managing the center of mass

We acquire control of the body's center of mass from birth. In the period of early childhood, instability is still present, then the latter stabilizes within the range of natural motor patterns. The feeling of safe movement is lost again when the effect of centrifugal forces on the body occurs – like the loss of balance that occurs when sliding. With various exercises and games, we can help students to play with their own center of mass with fun.

Controlling or playing with the center of mass during sliding presents the students with a new dimension of making turns, which, among other things, also determines speed control and the width of the skiing corridor. When to choose the moment of unloading and the resulting circular movement over the fall line, the speed of execution and the time of holding the higher point of center of mass, as well as the time of gradual loading and control of the skis in trajectory management - the answers to these questions define the quality and speed of skiing, for all skiing levels.

This trigger opens the way to a coordinated and harmonious execution of movement, which also represents the most rational way in which an individual can achieve high efficiency with a smaller energy input. However, we must be aware that for a younger child (before 6-7 years) this is an extremely demanding or even unattainable task.

On the path of teaching skiing, managing the center of mass of the body is one of the key leaps, the motor skills triggers. It takes the students into a new world of snow experiences. When they get the feeling that by releasing the skis, changing the direction of skiing is much easier and they can achieve it with less energy, the selection of exercises and games increases immeasurably. As well as the dynamics of teaching, the selection of terrain and organizational forms of work.

Coordinated turn

A fully coordinated turn is only possible if the student has previously mastered all of the above steps /motor skills triggers. A coordinated turn is the most advanced level in this hierarchy. It occurs when the precision and speed of the execution of the movement in the selected time and rhythm are combined. If a student is confident in their knowledge and abilities, only a varied natural environment presents new challenges.

A coordinated turn defines a very coordinated, relaxed, soft and rational movement that is not interrupted and disturbed by redundant, unnecessary movements. The sequence of movements of individual body segments from the feet to the head forms a complete and synchronized whole. Balance is no longer a fundamental problem, and the loss of the balance only occurs within more demanding tasks, higher speed, or difficult terrain. The superior performance of a coordinated turn becomes increasingly dependent on the quality of equipment and interaction with the type and quality of snow and terrain.

A high level of motor control is also required to master a level of coordinated turn. Controlled movement has become the most rational and economical, a low level of energy is needed to perform the movements, while at the same time the efficiency of the movement is very high. When students reach this level, they can persist in the activity for a long time with undiminished efficiency.

The final step in the hierarchy of motors skill triggers also presents new challenges and possibilities from a didactical point of view. In this stage, we can intervene in more complex forms of learning, teaching methods and organizational forms of work. The rich experience environment offered by different tasks setups / polygon, skiing in pairs or formations is particularly evident at this level of ski motor literacy.

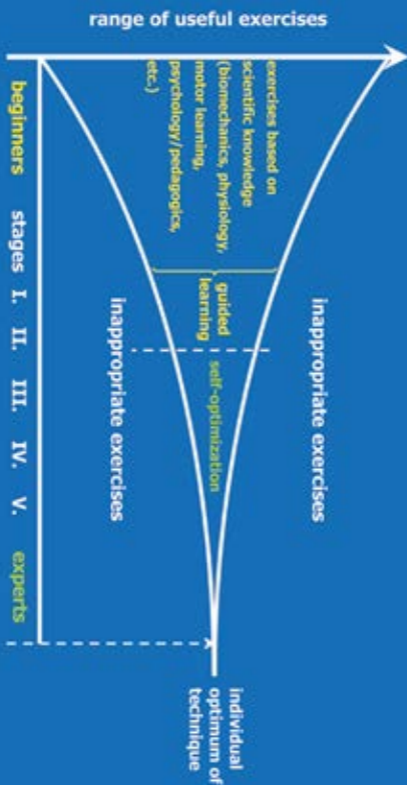
SKI EASY Learning outcomes

At the end of a Ski Easy Class students will be able to:

- manage center of mass;
- come to a full stop;
- change directions using wedged and/or parallel turns;
- control their speed while mastering their runs;
- move and / or glide on flat terrain;
- master runs on green and blue slopes;
- use the chair lift and T-bars safely;
- follow instructions on how to perform exercises from an instructor and/or the application;
- interact with instructor with regards to their needs.

The SKIEASY unified teaching model

Model of exercise selection depending on the competence level



How to do
it EASY?



ADAPTATION / FAMILIARIZATION

IMPORTANT:

See exercises in SKI EASY Mobile App.

Adapting to new equipment, sliding on a snow surface, new environment.

Best by playing social games:

- first without ski equipment,
- then gradually add one ski,
- then another ski,
- then the poles. Ski poles are an important part of the equipment.

Play games in pairs, groups of three etc.
("Ice Kingdom", chasing games, ski planes"...))



SLIDING, SPEED CONTROL AND STOPPING

After children have mastered the adjustment phase, they will learn the sliding phase. In doing so, they learn:

- to slide straight down the slope,
- control speed by braking (in wedge position),
- and stop safely (in a plow position).

They have to learn how to climb a slope. Show them all the different ways, then let them decide for themselves the one that suits them best.



Straight downhill:

the skis move along the longitudinal axis.

Side sliding

the skis move sideways.

Ways of climbing a slope

Exercises:

— **Walk like a “penguin”** (start flat, take small steps, feel the edges in the snow, climb a hill.

— **Stair climbing** (set your skis on the edges and crosswise on the fall line, climb with small steps).

— **Climbing in a gap / “roof”** (the tips of the skis are spread wide, the tails are close together, the knees are bent forward, the skis are set on the inner edges. Help yourself with the poles (bilateral sticking of the poles behind the back).

Wedge and plow position exercise:

- **Position at place** (A cake or a piece of pizza, cut it bigger, cut it smaller; jump into the wedge and back...)
- **Position while skiing and stopping in the plow** (shout vowels: I-U-A- MobApp)

Teach to get up after a fall on a slope:

Place the skis across the fall-line. Pull the legs towards the body, bend forward, lean on the poles and lift body up, placing on ski underneath the body to make a step.



CHANGING DIRECTION / TURNING

Having and developing a feeling of how to turn- change the direction, a transition across the fall-line. Problems with crossing the fall-line can overcome with exercises:

- **Scissors** - A straight downhill make quick diverging scissor steps to the left or right-face uphill,
- **Driving a truck** - (with a hoop),
- **Knocking on neighbor's door** - (with brooms and cones),
- **Teapot** or cleaning the ski tips (with brooms, cones).

(see SKI EASY MobApp)



MANAGING THE CENTER OF MASS

Games with the center of mass, transfer of the center of mass by moving it to a higher or lower point, loading and unloading the skis.

- **Up and down, runaway pants** - a hoop represents the pants, while skiing we catch runaway pants with moving up and down.
- **A train** - in pairs with a long pole - a wheel, on a medium-steep we imitate the movement of the wheels of an old train with our hands / knees- up – down.
- **Pole planting** - we play to pop virtual balloons in the snow, which when popped take us into the air –we jump.

With these games... skis will gradually slide closer and closer into the parallel position...



COORDINATED TURN

Perfectly coordinated turns with or without planting a pole and finally dynamic skiing with turns of different radii. It is a completely coordinated, relaxed, soft and fluid movement.

Exercises

- **Windows (upper body facing downhill)** - the poles in the hands symbolize the window through which we look into the valley and make parallel turns.
- **Grissini or hot bread sticks** - hold both poles in lower hand and, in the rhythm of the turns, move it to the future lower hand at the moment of unloading release, placing our free hand in front of our face and "blow" into the hot hand when put the hot pole in to the other hand. (see SKI EASY MobApp).
- **Polygons (Changing the rhythm)** - we set up a polygon and define a corridor in which we smoothly make turns with a coordinated planting of the pole.



Useful tips for work on the slope



Motor, emotional, cognitive and social development of the child

For successful teaching, it is important to plan lessons and adapt them to the age and developmental level of the students.

Content and exercises of the ski lesson must:

- In terms of quantity and intensity, correspond to the development level of the student;
- Being prepared in such a way that they are interesting, do not highlight the individual's knowledge and skills, but develop skills holistically, efficiency and ability to use this knowledge;
- To achieve that with the help of UTM (Unified Teaching Model) SKI EASY they develop into "sovereign" skiers and lifelong fans of winter sports;
- Also, include the process of reflection and self-control in different snow, weather, and terrain conditions.

IMPORTANT! Motor transfer in motor learning:

- Include left and right sides of the body in the exercise;
- Use the hands to simplify the movements performed by the legs;
- Include similar, already known motor tasks and thereby facilitating the motor skills learning;
- Don't forget to the cephalocaudal (from top to bottom) and proximodistal (from the middle outwards) direction of motor learning (detailed explanation on web page).



Important factors in motor learning:

Emotions (experience orientation)

Successful learning can only be ensured where (mostly positive) emotions are present.

Experiential learning environments

They enable and encourage independent learning, shed light on learning outcomes from different perspectives, direct the learning process to specific real-life situations and problems, rely on students' learning experiences and include interaction options, and provide a good basis for developing into an independent actor in winter sports.

Grounded in experience

The emergence of context-specific skills is based on experiences from different contexts.

It is important to know the appropriate developmental stages for each age group and use them as a basis for content when teaching winter sports. Despite everything, it must also be taken into account that, regardless of the age of students, motor and cognitive development is the result of their existing individual genetic predispositions in connection with environmental impact. Therefore, despite all generalizations, **each student must always be treated as an individual!**

Age groups characteristics and instructions to work with

Age from 3–5 years



Coordination:

- Concentration on one task at a time;
- try out various options;
- whole body orientation, no separation into upper and lower body;
- ability to quickly establish balance;
- ability to hop 2 or 3 times on one leg;
- balance requirements are compensated by increasing the standing area;
- balance is strongly influenced by vision (pay attention to the child's field of vision and head movements).

Physical fitness:

- Frequent alternation of high short intensive loads with rest phases;
- fast fatigue, but also fast regeneration;
- high mobility;
- strength depends on the individual's movement status and gender;
- low trunk strength negatively influences balance ability.

Emotional cognitive dimension (executive functions):

- Highly emotional responses - egocentrism;
- Needs direct and extensive attention;
- Stories, characters and imagination play an important role;
- Focus periods are short (< 10 min);
- Often distracted by other things - impulsive behavior.



Social competences:

- The child is self-oriented / self-centred;
- from the age of 4 onwards, there is a greater chance of transitioning from Individual to group play;
- communicating through laughter and crying;
- the child is starting to share (may still hesitate);
- fun is more important to them than competition;
- their moral values are binary (good is good and bad is bad).

General

- A great “need to explore”;
- movement is great fun for children;
- they do not know how to evaluate themselves well;
- high motivation to learn;
- fun is in the foreground;
- a lot is learned by imitation (pictures or demonstrations are important!).

What is important in teaching children from the age of 3–5 years:

- Be prepared to provide lots of individual attention;
- simple and short - do not connect tasks and instructions, tasks should be short and varied.
- when demonstrating, face the same direction as the students, keep the instructions clear, address each child directly and keep their attention;
- imaginative lessons with stories and characters, songs and rhythmic games, without competition;
- it is important that we all have fun together;
- encourage and reward;
- explain which unwanted behavior harms the child and the group;
- see winter sports as “fun activities”(developing positive feelings towards winter sports).



Characteristics of age group and work instructions

From 6–9 years



Coordination:

- Ensure more experience with movement (various motor situations);
- this age is the appropriate for learning coordinative tasks (ability to perform more demanding or complex tasks);
- rhythm can be used for motor tasks;
- ability to perform multiple tasks simultaneously;
- sensory information helps direct muscle activity to maintain balance.

Physical fitness:

- Development of endurance;
- increase in relative strength and trunk strength;
- are able to load only one leg and perform one- legged jumps.



Emotional cognitive dimension (executive functions):

- They already know to some extent how to express feelings and can separate reality from fantasy;
- they can process motor tasks cognitively (can understand things they cannot see);
- they are able to stay focused for 15 minutes or longer;
- distinguish between left and right sides;
- the ability to predict actions is developing;
- they are not fully able to assess danger (speed, ski track, etc.);
- they understand the relationship between movement and action- reaction;
- their attention, working memory and cognitive flexibility are improved.



Social skills:

- They understand and follow the rules of the game;
- it is difficult for them to bear defeat, but they know how to empathize with others;
- become competitive (self-esteem is linked to performance);
- they are ready to take on responsibility;
- they feel comfortable in the group and communicate with other members;
- social relationships with other children and joint activities with others are important to them.

General:

- Strong need for movement to become more independent;
- already strive to achieve their own learning goals;
- already take responsibility;
- are able to evaluate their performance to a certain extent;
- very suitable age for motor learning;
- they are able to take on “technical” tasks.

What is important for teaching children aged 6–9 years?

- Don't use too much imagination anymore, don't treat them like toddlers.
- It's already possible to organize simple competitions, but everyone should beat themselves and not others.
- Use a great variety and technically oriented tasks. Tasks and instructions that are similar and not too many at once (2-3).
- You can expect more balance and fine motor skills).
- They have developed from "imitator" to "active thinker".
- Help them to set rules and participate in decision making.
- Don't allow them to break the rules!



When the lesson starts...

Tips for successful learning



Get to know the student/ the group

- Get the necessary information about age, gender, previous experience and level of skiing knowledge, motors skills from other sports, special health problems, etc.
- Organizational features:** duration of the course (daily, weekly, winter school...), Students' and their parents' expectations)
- Introduce yourself** (first impression is important):name, experience, and role in the group)
- Take care of your appearance** (neat appearance: clean uniform and personal hygiene)

ATTENTION!

A ski instructor is a role model-during classes, therefore there is no room for unhealthy habits: smoking, alcohol use and other illegal substances. Use the phone only if it is necessary!



Point out the safety rules

- internal (safety!) rules: clearly define the meeting area, explain how to stop skiing in “a snake”, signs, warnings;
- check procedures regarding the accidents and define procedures with students in case of fall, get lost, or get injured;
- check understanding and reward those who provide good example;
- review ski lift procedures (restriction for children, loading and unloading procedures).

Select appropriate terrain:

- is the slope you choose enhancing learning and students feel comfortable?
- is the slope you choose safe enough (not too crowded, icy, ..)



Choose appropriate content and resources, methods, tools

It is the teacher's responsibility to use learning/ didactical tools in order to create the desired and appropriate motor learning situation, taking into account the weather conditions, age, experience and skiing knowledge of students and the objectives of the lesson. Make sure the group is as active as possible. Note: The students signed up for skiing, not for skiing debates!

Didactic games

Function as a basic approach and method for working with children and go beyond the definition of teaching techniques, methods and strategies. Games are an activity that affects children holistically.

When conducting various types of games, **DO NOT FORGET** to give students clear and concise instructions for the game, explain the rules and set a time frame (start and end).

As a teacher you must:

know the main goal of games (getting to know each other, learning new skills, etc.),
provide a safe environment (both physically and emotionally).

Use appropriate communication

- **speaking little and distinctly**, (with eye contact, facial expression, voice pitch,
- **clear and visible demonstration** and instruction (use examples and/or associations)
- **be kind**, praise and do not blame (find something good for everyone)
- **offer a path to the answer** (do not offer definitive answers but offer a path....)

Ensure positive group dynamics (group cohesion)

The teacher is responsible for group dynamics and must be able to manage conflicts between students and their behavior.

Strategies to enhance group cohesion:

- Carefully observe group members (who is quiet, who is the leader, etc.)
- Roles in the group are largely determined by the combination of the individual's personality and her/his experiences with the environment.
- Getting to know: It is important that all members of the group introduce themselves to others and get enough opportunities to get to know each other better and establish relationships.

Why is that so important?

People tend to offer more of themselves when they are with people whom they know. It is very important to spend some time getting to know each other. How? With several kinds of social games.

Empower your group identity

with helping to create a group nickname, slogan, incentive song, special greeting etc.

Implement feedback: When is the (ski) lesson successful?

When members of the group meet the basic psychological needs:

- Acceptance in the group
- Confirmation (of achievement, being praised, feeling competent)
- Entertaining and learning (through games and learning are connected)
- Freedom (feel independent and competent)



Myths and truths

Physiological facts about children during snow activities



This chapter presents the physiological characteristics of children in general and from the point of view of special needs, possible injuries and illnesses. *It presents facts, myths and truths that must be pointed out again and again, because children are not miniature adults!*

Grandma said that children should wear a CAP!

THAT IS ACTUALLY TRUE!

Head to body size ratio in children is much larger than in adults. As we lose almost 25% of body heat through the skin's blood vessels on our head, it is advisable that children keep their head covered when cold, even when not skiing, e.g. during the breaks.

When the outside temperature is -4°C , children can lose up to 50% of heat through their head.

Children HEAT up and COOL down faster than adults.

THAT IS TRUE!

Children have a higher surface area-to-body mass ratio, diminished sweating capacity, lower muscle mass and a higher metabolic heat production during exercise.

they might start to shiver and feel cold much sooner than adults and may 'overheat' sooner.

shivering in children is not so effective as their muscle mass is low.

more layers of clothes, which may be added or removed as needed are a better option compared to one extremely thick or thin layer of clothing.

Children are 'elastic' and will not BREAK BONES.

THAT IS A MYTH!

Children's skeletons have more cartilage and collagen. Their bones do deflect more but have a lower bending strength. So, their bones are 'weaker'. Their bones have a lower ability to sustain forces and can bear less. The rate and frequency of lower extremity fractures is much higher in children than in adolescents, especially under the age of 7!

Children will not get injured because they are short and 'FALL FROM A LOW HEIGHT'.

THAT IS A MYTH!

In proportion to the numbers of children on slopes they DO get injured very often.

In skiing, lower leg fractures are higher among children than among adults (32% vs. 18%)

The peak of fractures is at the age of 4 to 7 in both genders, and again in teens for boys.

Spiral fractures of the tibia predominate.

Children should not do strength training and carry loads?

THAT IS A MYTH!

Loading the children with ski equipment will not do harm to their growing bones and cause epiphyseal fractures. It is proven that children can demonstrate significant gains in muscle strength with resistance training (13 - 30%).

Children will OVERTRAIN, so they should exercise less.

THAT IS A MYTH!

Children have lower anaerobic power and a 2- to 3-fold lower blood lactate concentration after exercise when compared with adults but equal activity of aerobic endurance energy pathways! It seems that overtraining in children would happen more often psychologically and there is no reason to copy the training process of adult athletes. So, if a child wants to ski, they should be encouraged to do so!

GIRLS are weaker and skiing intensity should be adjusted.

THAT IS A MYTH!

there is no underlying physiological reason for that until puberty;

the strength and endurance of boys and girls is essentially the same until puberty, the differences start to appear around the age of 11;

only post-puberty, strength is much higher for boys than for girls. By the age of 15 years, boys were around 12% stronger than girls in their lower body.

Children do not adapt well to sun and UV radiation!

THAT IS TRUE!

Children have thinner skin (especially epidermis) which provides less protection, and they produce less melanin, so they have a higher risk of sunburn. Sun protection for children should be against UVA and UVB rays and a minimum of SPF30 applied every 2 hours. Also, their eyes are more sensitive, and they should wear sunglasses from an early age.

VERY IMPORTANT:

Sun damage accumulates!

Children do not adapt well to fog!

THAT IS TRUE!

Children and adolescents tend to develop motion sickness ('ski sickness' or Hausler disease) in fog more often. Sight disturbances (astigmatism and short-sightedness) are major risk factors.

Ski teachers should closely look for signs of disorientation, visual disturbances and dizziness, especially if accompanied by fear.

Children do not adapt well to altitude!

THAT IS HALF TRUE!

It seems that some children adapt to high altitude with more problems and higher occurrence of acute mountain sickness, especially when they are younger than 13 years. Children do not realize hypoxia and will report early signs later.

Some research indicated that children have a higher risk of altitude sickness even when sleeping below 2000m.

Ski teachers should monitor for headaches and signs or nausea.

Children, while skiing, always have to PEE?

THAT IS TRUE!

Well, not always but it IS quite common :)

As altitude triggers mechanisms that lead to diuresis (peeing) and as children's bodies have more water, it is not surprising that even if they peed at a previous cable car station, you could expect »Ski teacher, I must go« again once you reach the top!

Dehydration might lead to injury. //

THAT IS TRUE!

Childrens' bodies have more water content and losing 3% might lead to stress, induced by dehydration. Higher stress is related to higher cortisol levels and higher injury rates. Because of altitude diuresis (peeing) they are very susceptible to dehydration. The rule of a thumb for water intake is:

- 200ml of water or low carb isotonic drink before skiing

- 150-200ml for each hour of skiing ad libitum (freely) after skiing



When buying boots leave room for their fast-growing feet. //

THAT IS A MYTH!

- Non fitting boots are a major factor leading to lower leg fractures and sprains, especially among children.

- The binding release function is compromised when feet do not firmly fit within the boot. Children have a greater risk of injuries and therefore need the best-fitting equipment.

Girls generally ski with knocked knees, so we need to correct that? //

IT IS TRUE but should we correct it?!

Q-angle is an anatomical characteristic that is typically more pronounced in women than men, generally increasing with the width of the pelvis in (pre)puberty. Girls would often be seen in knock-kneed stance (or so-called A shape calves), that lowers edge engagement, limits leg movement and contributes to skidding. Even though you may feel compelled to correct that position aggressively, note that in some cases it would be impossible. A wider stance helps.

Even some of the best female skiers would still hold an A shape but reach the good lower ski grip with compensational 'hip dip'. Boot adjustment may help but only at an early age!

The best breakfast is cereals! //

THAT IS A MYTH!

There is a significantly higher sugar content in cereals advertised to children compared to generic cereals (on average 28g in 664 analyzed brands, higher than a 'popular black soda drink'). Many have a high salt content and are even high in fat. Food with a high glycemic food index triggers a high insulin response and leads to a strong hunger within only 2h.

Try to include some protein (eggs, unsweetened yoghurt) or raw cereals for breakfast and then let them have carbohydrates for lunch to replenish glycogen stores in the muscles and liver.

Diabetes and skiing do not mix well.

THAT IS A MYTH!

Children with diabetes type 1 should ski but do talk to their parents and learn about the early signs of hypoglycemia. Learn about glucose monitoring and make sure the insulin (with or without pump) is placed in deeper pockets, so it does not freeze. Do not start a ski day without fast acting glucose tablets in your pocket (and child's pocket as well) and even consider emergency glucagone injections. Replenish carbohydrates during breaks.

Never let a diabetic child use a chairlift alone, especially not after a strenuous run. Keep in mind that hypoglycemia after physical activity may also occur overnight.

Skiing with epilepsy is dangerous.

WELL, THAT MIGHT BE THE CASE!

Downhill skiing is categorized as a moderate risk for a child with epilepsy. A child who suffers from frequent attacks may really be at risk while skiing, especially when using ski lifts or skiing near unprotected cliffs or canyons. No anticonvulsants guarantee 100% freedom from seizures.

In case the child has been free from seizures for a long time and parents would like to enroll the child into ski school, talk to the ski school manager about protocols. In any case use a helmet and darker sunglasses as even bright light may provoke seizures. Avoid slopes with objects like trees and similar.

Cross country skiing is usually safer and a much-recommended alternative.

Obese children should not ski because of their joints.

THAT IS A MYTH!

A lot of severely obese people do ski pretty well. The problem might involve ski boots as sometimes those do not accommodate the size of the calf in obese children - so you would have to opt for a larger size. The loads are higher, but if the snow is not too hard and if the slope is moderate, there is no special danger for joints if you choose long turns.

The problem may appear when skiing in a group as a heavy skier picks up more speed due to the downhill force. If their muscle mass is not developed speed control might become an issue. Use this to encourage them and not to belittle them!

Longer skis might help to distribute mass for teenagers. Wide skis put more pressure on knees so advise skiing with a narrower waist. If obese children sweat a lot, consider bringing a change of clothes (base layer shirt).

A child with asthma should not be exposed to activities in cold air and higher altitude.

THERE IS SOME TRUTH TO IT!

Asthma can be triggered by many things depending on the type of asthma - and cold air and higher altitude are also among those reasons. The first exposure should be closely monitored as cold air and skiing might trigger exercise induced bronchospasm. If asthma is well managed (using long term therapy) still pay attention to slower execution of warm up/cool down exercises.

Make sure the child (and you) has a bronchodilator on the slope but use it only as advised by the parents or an MD. Peek flowmeter device may be useful but not obligatory.

notes



What should children eat while skiing?



Why is it important to eat well when skiing?

Basal metabolic rate is higher in winter than in summer. The body needs more energy to maintain a normal body temperature during activity.

Cold environments affect hormones that can increase appetite towards excessive food intake. Extreme environmental conditions such as high altitudes and low temperatures can also impair immune function and affect selected micronutrients such as iron and vitamin D.

Children require more energy during sport activities than adolescents or adults.

How to start the day before going on snow?

Children should start the day with breakfast and thus arrive at the ski resort well prepared. With breakfast, they receive energy for an active morning. Some children are picky eaters, so use your imagination and combine different shapes and colors to make fun and interesting meals for them. Be a good example and eat a healthy breakfast yourself.

Ask the children what they ate before starting the activity in the snow and compare their meals together...

Breakfast ideas

IDEA no.1

- Apple
- Skim milk
- Honey
- Butter
- Wholegrain bread

IDEA no.2

- Wholegrain bread
- Sunnyside up egg
- Tomatoes
- Orange juice

Snacks

Snacks are not required for physical activity lasting less than 75 minutes.

However, children can still get hungry, and when they do, it's wise to eat the "right" foods. Avoid processed foods and added sugars.

Choose

- Fruits
- Nuts and seeds
- Dried fruits
- Whole grain granola bars
- Homemade granola bars



Lunch break

Try to agree in advance with the restaurant owner on a selection of dishes that will be available for the children. Pay attention to portion sizes.

Each plate should be divided into 4 groups:

- Vegetables - 2/4 of the plate
- Grains: bread, cereal, rice, or pasta - 1/4 of the plate
- Protein: lean meat, eggs, legumes, tofu - 1/4 of the plate
- For dessert: fruit

IDEA no.1

- Vegetable soup
- Hot dog
- Whole grain bread
- Fruit

IDEA no.2

- Wholegrain pasta with chicken and cooked vegetables
- Fruit



You can always choose better:

- Pay attention to serving sizes.
- SPLIT and SHARE: Share a serving of French fries with other group members.
- Choose one food from each food group - fruits and vegetables, protein, whole grains, healthy fats.
- Avoid sugary (soda) drinks.
- Choose grilled or baked foods rather than fried or breaded. Be mindful with sauces.
- Be sure to eat vegetables and fruits.

Note to yourself

- Pay attention to portion sizes.
- Count the colours: the more colours on the plate, the healthier - you can make it a game or a contest.
- Limit sugar-sweetened beverages like soda.
- Avoid using food as a reward.
- Sweets and high-fat snacks are OK in moderation.

Be a ROLE MODEL!

What to eat after day on a snow

Within 30-60 minutes after exercise, it is important to replenish lost fluids and refuel with an adequate source of energy.

Make sure you have a snack that is rich in carbohydrates and protein:

- Chocolate milk

- Yogurt and fruit

Fluid needs in cold weather can be just as high as in hot weather.

Because of the cold weather, thirst is impaired. Water should be the fluid of choice - sports drinks are not necessary because children generally lose less sodium through sweat. Drinking sports/energy drinks as a general beverage can lead to excessive calorie consumption.

When and what to drink:

- Drink water 1 to 2 hours before activity.

- 150-250 ml every 20 minutes during activity.

Young athletes often do not maintain their water balance unless they are encouraged to increase their fluid intake, therefore they need to be ENCOURAGED to hydrate.

Safe skiing and care for the environment



Only a safe teaching method can be successful and fun for students.

PREPARATION FOR SNOW - DEVELOP

Increase adherence to physical fitness

SUITABLE EQUIPMENT - ADVISE

WARMING UP ON THE SNOW - EXECUTE

STATE AND FEELING - PAY ATTENTION

ATMOSPHERE - MAINTAIN

WORK ON THE SNOW - SUPERVISE

SKI SITE SITUATION - MONITOR

**WEATHER AND WORKING CONDITIONS
-PLEASE NOTE**

REGENERATION - MONITOR

**SAFETY ON THE SKI SITE
- FOLLOW 10 FIS RULES**

Respect other people

Do not put other people at risk or cause harm or damage.

Control your speed

Match your speed and behaviour to your ability, general piste conditions and the weather.

Choose the safe way

When you are uphill and can choose your route, take a direction that eliminates the danger of colliding with any skiers below you.

Overtaking

You can overtake another skier, whether they are above or below you, on your right or on your left, but maintain a safe distance so that you are not an obstacle for the other person.

Entering or crossing

Before you go onto a slope or start again after a break, look uphill and downhill to make sure you can proceed without danger to yourself or to others.

Stopping

If you have to stop, stop on the edge of the slope or in places with good visibility, never at the obligatory crossing points. If you fall, move away from the ski slope as quickly as possible.

Walking up and down the slope without skis.

If you have to walk up and down the slope keep to the edge of the slope and only do so if visibility is good.

Safety signs

Obey the safety signs on the slopes. All users must obey them!

Accidents

If there is an accident, give first aid immediately and call the emergency services if necessary.

Identification

Remember that if you are involved in or are a witness to an accident you must provide your personal details.

FIS environmental and safety rules for skiers and snowboarders

When enjoying spending free time in nature, we must be aware that we are sharing it with animals and plants, so we are all responsible for protecting the environment. FIS calls for compliance with the following rules:

- Choose ski resorts that take care of the environment.
- When traveling, choose more environmentally friendly means of transportation (bus, train).
- When using the car, try to occupy all seats with fellow passengers.
- Use the ski bus in the ski center.
- Check the snow conditions.
- Keep to signed ski runs and trails.
- Pay attention to any special marks on courses and keep off closed slopes.
- Never ski and snowboard off on closed slopes, especially not in wooded areas.
- Do not deviate into protected areas. Take care of any animals and plants.
- Do not leave your waste, take it with you.

Language and cultural diversity on slope



What is good for us to know?

As a (modern and postmodern) social phenomenon, winter sports have become popular all over the world and have spread to all continents. Globalization and modernization have brought Alpine skiing closer to users (also with artificial ski slopes), and the development of ski centers makes it possible to ski in ever-new locations and follow the winter seasons. After the end of the winter season in the USA, Europe or Japan, professional ski instructors continue their work in Australia, Chile or New Zealand.

Establishing alpine skiing as a globally popular sport also requires openness to multiculturalism. Since there are differences between cultures in the styles and patterns of participation in sports, the rules, customs and rituals associated with them must be adapted to each cultural environment. Even when teaching skiing, it can happen that when communicating with students we encounter obstacles that originate from linguistic and cultural differences.



Tips to help overcome language barriers in a teaching context:

Use Clear and Simple Language:

Demonstrate whenever possible (more universally understood).

Encourage students to ask for clarification when needed.

Use Translation Services or bilingual aides to assist in communication (such as **SKI EASY MOBB APP with dictionaries**)

Cultural Sensitivity: Be aware of cultural nuances that may impact communication. Incorporate examples and scenarios from various cultures to make the content more relatable.

Be **patient and empathetic** towards learners who may be struggling with language barriers. Regularly seek feedback from students about the effectiveness of your teaching methods.



On our website: <https://www.skieasy.eu/> you can find some traditions of a particular culture across continents to help you when you are faced with certain potentially awkward situations.

About the “SKI EASY” project

Easy approach to skills acquisition in skiing



This pocket manual is one of the important outcomes of the project EASY (Educational, Accessible, Simple, Youthful) Approach to Skills Acquisition in Skiing – “SKI EASY”, financed by the Erasmus+ Sport programme was executed from January 1 2021 to December 31 2023.

The main objectives of the project are hidden in the initials of the acronym EASY:

E - promotion of education: in and through sport with special focus on development of skills and competences of ski instructors and learners; enrichment of (self-employment opportunities for professional and dual career development; teaching module - SKI EASY certificate;

A - accessible learning: and stimulating participation in outdoor sports; Snowsports Days to reach the population of deprived children and let them experience snow sports with the help of local communities and volunteers;

S - simple communication: implement a pedagogical model of ski teaching (ski alphabet, dictionaries and animation) for ski beginners of all partners' linguistic groups to simplify the ski teaching process;

Y - youthful: IT driven approach to overcome language and cultural barriers.

SKI EASY activities and outcomes are as follows:

- **SKI EASY unified teaching model (UTM)** and curriculum with scientific background adapted to linguistic and cultural diversity (SKI EASY certificate);
- **SKI EASY educational materials** (pocket and e-manuals, MobApp for smartphones);
- **SKI EASY Snow days** with innovative ski equipment for children and SKI EASY instructor guided ski lessons.

The consortium consists of nine partners; besides ZRS Koper as coordinator IAESS (The International Association of Education and Science in Snowsports), SITAS (Ski Instructors /Trainers Association of Slovenia); CFVG (Collegio Regionale Maestri Sci FVG / Ski Instructors College of Friuli-Venezia Giulia, Italy); UNISAL (University of Salzburg, Department of Sport Science, Austria); UNIZG (University of Zagreb, Faculty of Kinesiology, Croatia); BSS (Bulgarian Ski Schools, Association of ski teachers and ski schools in Bulgaria); ATUS in B&H (Ski Trainers and Instructors Association in Bosnia and Herzegovina); UNINIS (University of Niš, Faculty of Sport and Physical Education, Serbia).



notes



