

# Mountain Biking / BMX Biking / Fat Biking (Higher Risk)

## Higher Care

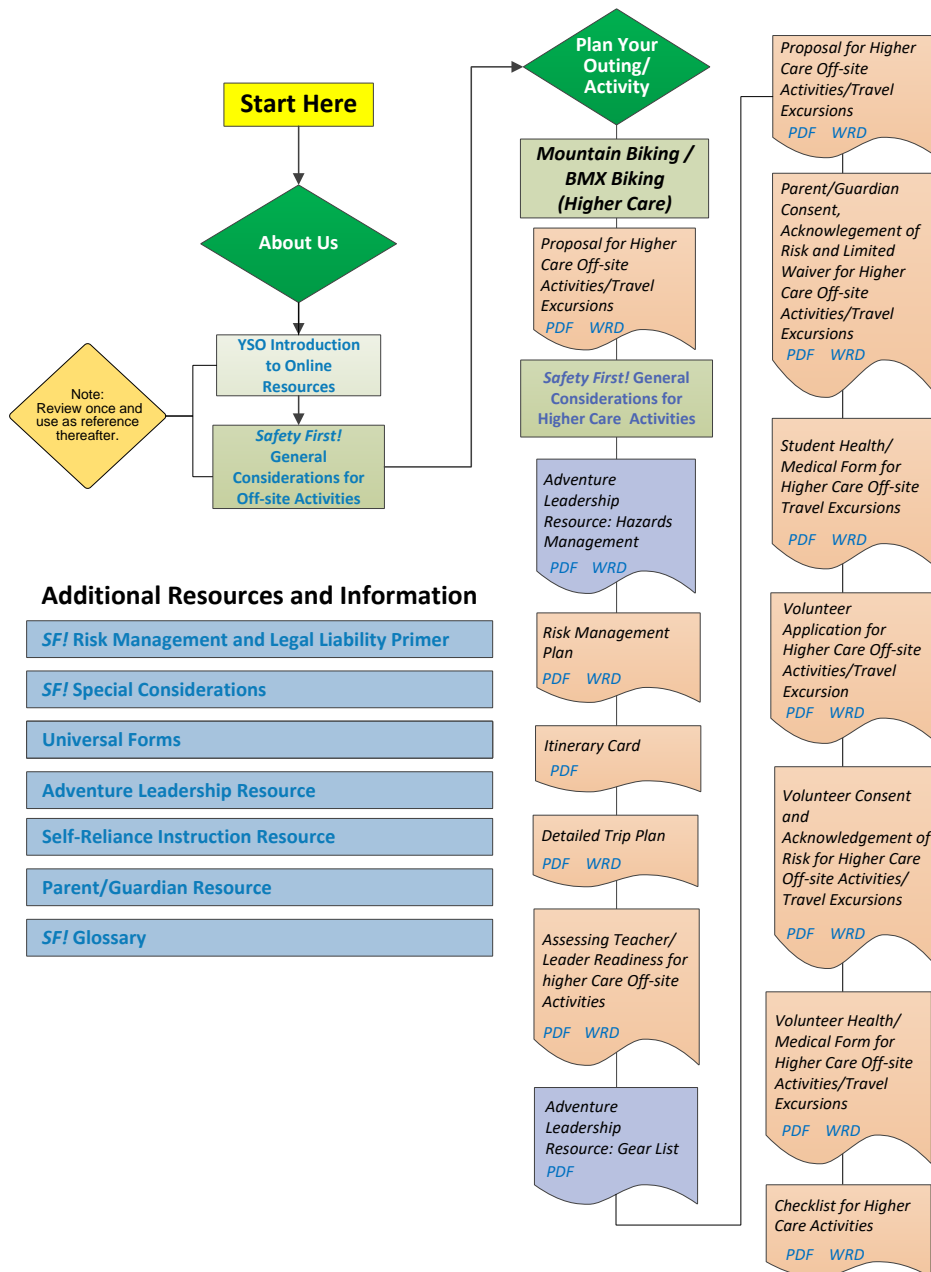
### Criteria:

- Complex terrain: multiple junctions, steep, rough terrain;
- Semi-remote to remote: out of the community (e.g., provincial park, wilderness river);
- Higher inherent risk in the activity; skill and/or speed involved
- Lack of clear boundaries for activity: one could be lost for more than an hour;
- Long duration: typically (but not always) a half-day to many days duration;
- Far from support services: far from buildings and/or vehicles;
- Not close to emergency services: more than 20 minutes from EMS arrival on-site;
- Specific leadership training required: some specific technical and leadership training indicated;
- Significant preparation time of students: more than an hour of student prep needed.

# Mountain Biking / BMX Biking / Fat Biking (Higher Risk)

Flow Chart, Steps to Success, and Safety Guidelines

Day Tripping (Higher Care) Grade 6+  
Overnight Tripping Grade 7+  
Extended Tripping Grade 9+



# Safety Guidelines

## Mountain Biking / BMX Biking / Fat Biking (Higher Risk)

Mountain biking or fat biking in the higher care context may involve trail cycling in an environment and/or over a duration that presents higher objective risks than local, low risk biking activities do. Mountain biking remains one of the most accessible, lifelong activities and exposing students to safe biking in a variety of contexts is worthwhile where it can be undertaken with safety as a high priority.

BMX riding in the higher care context may involve practising more demanding technical skills in a skatepark or racing on a BMX track.

**Mountain biking** to the use of mountain bikes for riding or touring on less developed trails that typically require some degree of maneuvering through and around obstacles such as narrowly spaced trees, rocks, roots, mud, streams, steep hills, etc.

**BMX biking** refers to riding small-wheeled bicycles, with use similar to that done on mountain bikes or in BMX (typically short course of dirt hills) or skateboard facilities. BMX does not involve overnight or longer outings.

**Fat biking** refers to riding bikes with wide tires made for traversing soft surfaces like sand and snow without bogging down. Fat biking is not a very accessible activity to most youth currently, but they may be available for rent from a store or resort and because they open up an entire new season for riding (winter), including learning skills and attitudes that may contribute to non-motorized winter commuting and recreation, have been included here.

## Known Potential Risks

- Injuries related to motor vehicle crashes en route to and from activity area;
- Becoming lost or separated from the group or the group becoming split up;
- Injuries related to slips, trips, and falls in the program area or en-route to/from it;
- Injuries related to falling off the bike;
- Injuries related to colliding with a moving object (e.g., another cyclist) or with a fixed object (e.g., a tree);
- Injuries related to ill-fitting equipment, equipment malfunction, or failure to use the equipment properly;
- Injuries related to the physical demands of the activity and/or lack of activity skill;
- Weather changes creating adverse conditions;
- Hypothermia due to insufficient clothing;
- Loss of manual dexterity in hands during cold and wet weather;
- Frost bite and/or other cold injuries if fat biking in winter;

- Hyperthermia (e.g., heat exhaustion, heat stroke) due to insufficient hydration, overdressing, and/or overexertion in a hot environment;
- Allergic reactions to natural substances (e.g., bee or wasp stings);
- Injuries related to interactions with animals and plants in the environment;
- Psychological injury due to anxiety or embarrassment (e.g., re: body size or shape, lack of fitness and/or skill);
- Illness related to poor hygiene,
- Complications of an injury or illness due to remoteness and time to emergency services; and
- Other risks normally associated with the activity and environment.

## Mountain Biking/Fat Biking Day Tripping (Higher Care):

### Teacher/Leader Readiness

- The teacher/leader must be competent to organize the biking activity; to demonstrate, instruct and supervise it; and to effect rescue and emergency procedures as necessary. The larger the area and/or the longer the cycling activity is to be, the more knowledge, skill, fitness and experience the leader must have.
- The teachers/leaders must be aware of and respect cycling related legislation in the province, as it relates to the cycling activity and environment.
- All teachers/leaders and accompanying supervisors on bikes must be comfortable on the type of bike and in the environment selected.
- The teachers/leaders should be very cognizant of their own riding habits and consciously work to be good role models (e.g., wear helmets, use signals consistently, walk where students are expected to walk).
- Training may be secured through Cycling Canada, Sprockids or other appropriate sources.
- At least one supervisor must have some skill in basic bicycle repair and maintenance.
- At least one supervisor must have first aid training, the level dependent upon the time/distance from EMS (refer to *First Aid in General Considerations*).

### Location

- Guidelines related to travel by bus or walking to/from a site are covered in *Travel to/from Off-site Destinations* in the *General Considerations*. If travelling by a means other than bus or walking see *Transportation in Special Considerations*.
- If it is necessary to transport bikes (other than parents/guardians bringing them to the site), select an appropriate mode of transport for the bikes. This may include using trailers, vehicle bike racks and/or other methods of public conveyance (e.g., buses, trains). Check any trailers used for loose bolts and ensure lights are functioning. Ensure bike racks are well attached to the vehicle and bikes to the racks.
- Choose routes carefully in terms of the length, grade, trail surfaces and hazards with consideration of the skill, fitness and experience of the students.

- Prior to initial use of an unfamiliar route, leader or designate should do a pre-ride to assess safety and suitability. Pre-travel of the route helps to secure an estimate of the time needed, trail conditions, hazards present, and appropriateness for the group.
- Plan trip distances conservatively, in the event of a mechanical breakdown or other problem. Cycling trips usually cover substantially more distance than hiking outings, so it is easy to be quite far from home base.
- Ensure that mountain biking or fat biking is permitted in any park or protected area to be used.
- If riding to a trailhead, avoid riding on busy roads, especially if there is no cycle lane or paved shoulder.
- If riding on a road for part of the ride, at least the lead and sweep riders should be wearing clothing or safety vests that are brightly coloured or that have reflective tape to enhance visibility of the group to motorists. All riders should be encouraged to wear brightly coloured and/or reflective clothing.

## Equipment

- If personal equipment, parents/guardians can be tasked with checking or having a bike technician check the bike over and fit it to the student prior to student using it in the activity. Bicycle inspection should include, but not limited to:
  - working brakes,
  - inflated tires with adequate tread,
  - functioning gears (if relevant), and
  - secure headsets.
  - bicycle fit, including correct seat height and position, pedal position, and handlebar position.
- Parents/guardians are responsible for outfitting their child/ward with correctly fitting single use approved bicycle helmets for cycling activities (see *Protective Equipment for Physical Activities in Special Considerations*), unless the school has assumed this responsibility. Cycling helmets reduce head injuries by 85-88%, are inexpensive, accessible and required by law for all minors in most provinces. Teachers/leaders must **REQUIRE** their use in all higher care cycling activities.
- Teachers/leaders should check that students' helmet straps are properly adjusted and buckled and require students to keep them on at all times while riding.
- Recommend that a functioning bell or noisemaker be attached to each bike.
- Use closed-toe, stable shoes for cycling (e.g., runners, approach shoes, cycling shoes).
- Toe-clips or clipless pedals aid in cycling efficiency and in keeping the feet on the pedals, but riders who use them must know how to use them effectively and, more importantly, how to extricate themselves quickly if need be. Alternatively, if inadequate time and opportunity to learn to use these pedals safely, swap in flat pedals for the cycling activity.

- Clothing worn should be comfortable and appropriate for the weather. Light coloured or reflective clothing and helmets are more visible.
- Riders need a good layer(s) of clothing for wind protection if it is cool out; riders lose heat through convection (air moving past a person carries body heat away).
- Protective eyewear should be worn at night or on trails where branches protrude.
- A leader should carry a basic repair kit.
- The first aid kit should include large gauze pads and bandages to cover major road/trail rash.
- Secure pant legs, as necessary (e.g., clips, elastics), to avoid snagging under chain.
- Tie shoelaces and secure loose clothing and long hair.
- No earphones or cell phones while riding.
- Each student should wear a daypack or have a bike bag on the bike that contains, additional clothing, rain gear, snacks and other items that may be needed.
- Bring sufficient locks or supervise bikes to protect against theft if leaving them in a public place for a period of time.
- Avoid riding at night. If riding at dusk or at night, reflective strips on the bike frame, clothing use of a headlight, a red taillight and/or red reflectors on the rear of the bike increase visibility.
- For BMX park riding or skatepark riding, leg and arm protective pads are recommended.

## Instruction

- Teaching/review of skills may include, if/as relevant to the cycling activity, group and time available:
  - clothing and footwear for riding,
  - bike checks,
  - correct positioning on bicycle,
  - reading and obeying traffic signs and/or bike trail signs,
  - staying alert (inattention causes accidents),
  - how to signal and carry out turns safely,
  - if riding on a road, doing so in the same direction as the traffic (ride on the right),
  - how to maneuver the bike (e.g., riding up and down hills, cornering)
  - when to ride and when to walk (e.g., steep ups or steep downs, lifting bike over big logs),
  - learning to judge when to re-mount on an uphill or downhill vs. walking the bike to a flatter spot,
  - anticipating and responding to rough patches in the road/trail including standing water, mud, depressions, loose gravel, soft sand, ruts, etc.,
  - handling various obstacles on the trail including roots, rocks, small logs, tight turns between trees, etc.
  - riding single file, leaving enough space to be able to dodge obstacles without endangering others,
  - calling out obstacles and traffic for those behind,

- passing others safely; calling out and passing on the left,
  - slowing and looking both ways before entering a trail junction,
  - riding in a predictable manner; looking around before swerving, turning or changing lanes and signaling where appropriate,
  - safe riding procedures for if in traffic, near parked vehicles and especially around buses and trucks,
  - staying alert and focused on the road and traffic including moving and non-moving obstacles, road conditions and weather conditions,
  - handling equipment failure like flat tires or breaking chains,
  - efficient cycling technique and gear use,
  - if in open terrain, handling gusting headwinds and crosswinds,
  - dealing with wet riding surfaces (which can be slippery and can reduce brake function),
  - being aware of snow or ice which can be a seasonal hazard on trails,
  - basic bike maintenance (e.g., cleaning) and repair (e.g., changing a tire), and
  - how to fall/put the bike down safely.
- A higher care biking experience should be preceded with a lower risk instructional, training, or shake-down activity to help ensure the students can handle the higher care activity.
  - If mountain biking, students should be taught and practice falling and rolling from their bikes on soft ground before they are taken riding on highly uneven surfaces where falls are not a completely uncommon part of the sport.
  - The relevant rules of the *Motor Vehicle Act* must be adhered to if going on roadways, including group riding protocol.
  - Students should be instructed to make eye contact with drivers and assume that they have not been seen until acknowledged.
  - Rules of the trail for off-road cycling must be reviewed, if trail riding.
  - Inappropriate use of mountain bikes can destroy an area, especially during wet conditions, rendering the area dangerous for future riding. Avoid such impacts (e.g., walk across muddy areas, avoid locking up brakes and skidding the rear wheel, which can create erosion ruts).
  - Racing should generally not be done, except where students have been trained how to race and demonstrated they can race safely and an appropriate site is used. BMX biking is the exception, where the purpose of the sport is to race the track; it is a closed environment readily fully supervised, so is a much safer venue from racing than cross country trail racing.

## Supervision

Ensure students are appropriately supervised (considering age, maturity and context). In addition to the guidelines in *Supervision* in the *General Considerations*, apply the following as appropriate:

- In the area supervision.
- Larger groups of students (based on context; e.g., location, traffic, public) should be kept between a lead (supervisor at front) who sets the route and signals the turns and sweep (supervisor at rear) who helps ensure no one gets left behind.

- If the group gets too spread out, adjust the pace or urge dawdlers on.
- The lead and sweep should be in audible range of each other or have telecommunication devices that allow them to communicate (e.g., cell phones, FRS, walkie talkie).
- Supervision ratio per calculation (See *Supervision in General Considerations for Higher Care Activities*).

## Mountain Biking / Fat Biking Overnight/Extended Trip; all of the above plus:

### Location

- Be particularly aware of how much farther biking can take a group than hiking. The group that ventures far into the backcountry must be very well-prepared and self-sufficient.

### Equipment

- Recognize the potential complications of biking with loaded panniers on uneven terrain; be more conservative and prepared to get off the bike to walk more often to protect rider safety and the bikes.
- Riders should wear brightly coloured clothing when riding on trails or dirt roads in rural areas, particularly in hunting season.

### Instruction

- If mountain or fat biking, instruct students about natural hazards present on or along the trail (e.g., rocks, tree roots, logs) and how to safely negotiate these. Attention should be given regarding when to ride and when to walk the bike.
- Students should be competent at selecting and shifting gears effectively in response to changes in incline before venturing onto hilly trails.
- If sharing the trail with other recreational users such as hikers and horse riders, ensure that riders are familiar with protocols for safety and courtesy (e.g., ride under control and at reasonable speed; make verbal/bell contact, especially if coming up behind someone; get off bikes, move off to side and stand still while horse groups pass).
- If riding in bear country, particularly where heavily wooded, avoid group spreading out along the trail excessively.
- Students should be competent at selecting and shifting gears effectively in response to changes in incline before venturing onto hilly trails.
- Inappropriate use of mountain bikes can destroy an area, especially during wet conditions, rendering the area dangerous for future riding. Avoid such impacts (e.g., walk across muddy areas, avoid locking up brakes and skidding the rear wheel, which can create erosion ruts).
- Because trail cyclists move significantly faster than hikers, be particularly cautious in bear country. Attach noisemakers to bikes or persons and/or talk or sing when in confined woods.



- Instruct students to get themselves and all of their gear well off/to the side of the trail when resting, having lunch, or stopping for any other reason.
- If sharing the trail with other recreational users (e.g., walkers/joggers, hikers, horse riders), ensure that cyclists are familiar with protocols for safety and courtesy (e.g., ride under control and at reasonable speed; make verbal/bell contact, especially if coming up behind someone; dismount, move off to side and stand still while horse groups pass).
- Because of convection effects, cyclists may dehydrate more quickly than hikers or others working at the same intensity. Students should be encouraged to carry water (on their bikes or persons), and to drink often (e.g., give reminders at break stops and model by drinking frequently).

## Supervision

- As above under *Mountain Biking / Fat Biking Day Trip*.
- Lead and sweep supervisors should carry communication equipment (e.g., cell phones, FRS, walkie-talkies) to facilitate communication between them, or create a relay system to pass messages up and back.

See *Camping*.

## Notes

1. If, when reviewing the guidelines above, terms and concepts presented are unfamiliar, this is a strong indicator that additional personal leadership preparation (e.g., a training course, reading) or contracting a qualified service provider is advisable.
2. This document is not intended as an instructional guide. The teacher will need to use other references to learn how to teach students the skills (e.g., how to brake when inline skating, how to do a diagonal stride when cross-country skiing).