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Cycling Safety

Introduction:

This information sheet is to outline factors that may affect the running of a cycling activity. It is by no means exhaustive, but is intended to provoke thought and a high degree of preparation into the safety of the participants.

The factors selected for this document are to cover the following:

What is ***not*** included: Due to these being very comprehensive subjects in their own right and requiring many hours of study and practice beyond the scope of this document.

- Cycle training & personal riding standards
- Health & Safety considerations
- Highway code & use of the public roads.

Any adjustments made to someone's cycle should be only carried out under the owner's instruction and within the skill level of the activity leader.

A suitably trained cycle mechanic **MUST** carry out all adjustments listed below:

- Headset adjustment
- Wheel bearings
- Wrinkled paint, bent tubes or frame damage
- Wheels significantly out of true.
- Cable frayed
- Chain replacement
- Excess play in bottom bracket
- Any other component replacement.

1 Bike set up and use.

An individual taking part in a cycling activity may bring along a bike that is not suitable for the conditions or may require some adjustment due to the child growing since it was last set up.

Therefore consider the activity and suggest suitable types of bike in the flyer or poster that is prepared.

For example a BMX bike is fine for a playground activity but not suitable for a road or trail ride of more than a mile or so. If the saddle is raised as described below, please ensure the maximum limit mark on the seat pin is not exceeded, and show the rider how to adjust it back for his normal use, i.e. jumps and tricks that use a lower saddle position.

If someone brings along bike that is far too small or too large this may cause a risk of crashing and injury to the person and the group.

1.1 Saddle Adjustment:

The saddle should be flat or just its nose pointing up very slightly.

Its position horizontally should set up so that when the pedal crank is at the forward 3 o clock position, the middle of the knee should be directly over the middle of the pedal.

The height of a saddle is different for a novice to an experienced rider. The novice will feel more comfortable being able to touch the floor whilst seated, whereas this is not very efficient for a longer ride.

It may be feasible to adjust the saddle height when inspecting the bike to promote an efficient pedalling action. The easy set is to place the riders heel on the pedals, with the pedal crank in line with the seat tube and adjust the saddle height so that the leg is straight with the foot parallel to the ground. When the rider places the ball of his/her foot on the pedal then a slight bend will be seen with the pedal at the bottom of the stroke.

1.2 Handlebar position:

The position of the handlebars is very personal to the user of the bike. He/she may experience back or shoulder pain that requires a more upright position. A racing cyclist may adopt a very low handlebar position for aerodynamics.

It is imperative that whatever the type of bike, the rider must be able to see the route clearly and be able to control the bike's direction and speed according to the activity and conditions.

The brake levers must be accessible in relation to the degree of control required for the activity. A low risk activity such as climbing a hill on a road does not need close attention to braking as opposed to a high risk activity such as descending a hill, where constant control of the brakes is required.

If this degree of control is not possible the individual should be advised not to take part in the activity.
The set up of the bike should also enable items such as drinking bottles to be used without affecting the control of the bike, assuming the rider is competent in riding with one hand on the handlebars.

1.3 Tyres:

The bike should also have suitable tyres for the terrain to be encountered during the ride, taking into account the worst case scenario, eg off road or muddy paths. Smooth tyres are fine for dry road conditions but may be hazardous in off road conditions. If a rider is experiencing problems with control of the bike due to inappropriate equipment, the person should be advised to get off and walk until the terrain is more suitable to the bike.

2 Weather conditions & Clothing

When planning an activity, careful consideration has to be given to the possible weather conditions that may prevail and the use of suitable clothing.

In Britain it is highly likely that a cycling activity will be carried out in inclement weather; wearing suitable clothing is the way to combat this. Hot days are also hazardous, so use sun block and drink plenty of fluids.

Whilst not every cyclist is in possession of the latest cycling clothing, it is possible to wear suitable every day clothing for cycling activities.
The fundamentals of wearing suitable clothing are:

- It is not heavy and cumbersome which may affect the control of the bike.
- It is not made of materials that retain water for long periods such as cotton jeans or T-shirts.
- It is not so baggy that you effectively become a human kite or parts of the clothing get caught up in the bike itself.
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Long jackets are not recommended as they may become snagged on the saddle.

What are suitable for cycling are:

- Fleece jackets with full zips, to regulate your internal temperature.
- Tracksters or close fitting jogging bottoms made from man-made materials. The alternative is to tuck the rousers inside the rider's socks
- Training shoes with little or no tread and hard soles. Laces to tied short to stop them snagging on the chain or chainring.
- Underpants that are shaped like cycling shorts with very small seams under the crutch.
- Cagoules that can fold up when not in use and be stored in a pocket or bag.
- Thin gloves that are non-slip on the palms and enable full use of the fingers to apply brakes.
- A close fitting woolly or ski hat to retain body heat, not a cloth cap that can fly off in a strong wind.

For very cold weather of under 10C, a nylon front jacket may be very useful and it will have some water resistant properties.
If it is raining, you don't have to keep all the water out, because if you do you will sweat profusely and be even more uncomfortable. It is very important to keep warm and remove the wet clothing at the end of the ride.
Helmets which comply with the British Standards are strongly recommended, but not compulsory unless dictated by the organising body.
Protective equipment is to minimise risk of injury, it is <u>not</u> complete protection and riders should be aware of this.

3 The Environment for a cycling activity

To run a cycling activity the environmental conditions must be suitable to the nature of the activity and the age and skill level of the participants.
The conditions to take into account are:

- Space available to run the activity
- Age and experience of the rider-beginner, intermediate or competent.
- Proximity to other people or road users.
- Alternatives if any for very bad weather.
- Toilet, washing and refreshment facilities
- Nearest emergency facilities or contact – Public telephone
- Warning notices to advise others of the activity

Beginners: The ideal environments are school playing areas, preferably hard surface unless mountain bikes are being used.

- The area should be well lit.
- A school sports hall can be on hand if the weather turns particulary nasty, but be careful as indoor surfaces are usually very slippery and extreme caution must be used when turning.
- A seating area should be arranged for non active riders.
- When inspecting areas, look for possible hazards and place restrictions on the riding area to be used.
- Keep the areas secure if possible according the guidelines of the building.
- Be aware of fire exits and signing in procedures.
- Have a storage area available if the riders are parted with their cycles for whatever reason.

If a bike doctor session is being run, arrange for alternative activities for the other participants with a suitable number of leaders as only one or two bikes can usually be attended to at any one time. The bike doctor session should be carried out in a small room where cleaning facilities are close at hand. This is also a way of retaining the number of tools you started with! Be aware of the impact of dirty bikes or the use of grease on the flooring. An old rolled up carpet can protect in most cases. Grease is used to line brake cables and so a rag should be on hand to the mechanic.

Intermediate: Cyclists with a higher skill level can use lightly trafficked roads once the activity leader is satisfied with the competency of the rider. It may be preferable to keep away from large hills as the fitness level of the rider may be low.

Competent: For competent cyclists a more difficult terrain would be advantageous to develop the skills and fitness of the rider. This may include off road riding where the riders should be instructed to walk if they do not feel comfortable in riding technically difficult sections. If running an off road ride, please ensure the ride is carried out with at least one trained leader with nationally recognised qualifications such as the OTC or BSCA.

The duration of the activity should be in accordance with the rider's abilities with sufficient rests to prevent over tiring.

4 Individual's Needs:

With any cycling activity the needs of the individual to be considered are:

- Age
- Sex, with relevance to same sex leaders.
- Race/Language
- Skill level on a bike
- Cycling competence and road-sense if any
- Physical ability, such as ability to look over their shoulder, use two brakes
- Special needs if any.
- Medical needs if any, diabetic, asthmatic etc.
- Receptiveness to type of training.
- Type of bike to be used, adapted if necessary.
- Dietary needs
- What the individual wants to achieve in cycling.
- The individual's time constraints.

The above is listed to enable the activity leader to provide a program that enables the group to get as much satisfaction from the session as possible. Specialist training is required to look in detail at the above, beyond the scope of this document.

5 Risk Assessment & Hazards

It is fundamental that cycling activity leaders or organisers are aware of their obligations to the safety of themselves and others.
Risk assessment is a fact of life where potential hazards are identified and classified as to their potential for risk, and control measures taken to minimise those risks.
Possible risks are:

- **Exposure to the weather may affect a riders health.** Risk is very low if suitable clothing is worn as described above and sufficient breaks and protection measures are taken such as sun block
- **A bike may undergo mechanical failure that could cause a crash or injury.** Risk is minimised if an inspection is made of the rider's bike by an accredited assessor prior to the activity.
- **A rider may fall off on their own accord** For beginners the risk is high, with training and experience the risk is lowered. Also using a suitable sized cycle lowers risk.
- **Two riders may collide and fall off.** Risk is relatively low if the riders are instructed in emergency stops and practise swerving to avoid and obstacle. The risk is higher if the speed is faster than the riders are used to, and insufficient gaps are not observed between riders.
- **A rider may collide with a pedestrian.** The risk is low unless in a closed area with public access. The use of restricted areas and warning signs minimises risk. Riders should be instructed to look for unexpected obstacles whilst riding.
- **A rider may collide with another road user.** Risk is low if the rider has been trained progressively from Beginner to Intermediate levels from accredited training companies such as Cycle Training UK or Infrastruct. The rider would have been instructed on his/her position on the road with respect to obstacles and other road users and other cyclists.
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The control measures such as training must be appropriate to the risk or hazard to minimise possible injury or the threat of an accident.

For cycling activities, certain hazards cannot be removed as they are related to the sport and the appeal to the participants. These hazards may be the course and state of the paths, with the effect of weather on the course.

What is in the control of the leader is the instruction given before starting the activity and safety warnings of possible hazards.

The leader must show that all reasonable care has been taken to minimise risks.
We in Cycling Projects recommend that *in addition* to the organiser's code of practices:

- That the rider is well enough to take part in the activity
- There is sufficient space to run the activity.
- The seating, toilets and refreshment areas are made known to riders.
- The nearest landline telephone location is known.
- That first aid cover is available.
- That instruction is given on the use of helmets.
- The rider's bike is assessed for being safe to use in the activity.
- Participants are instructed on their responsibilities to their own and other's safety
- Suitable clothing for cycling is worn by all.
- The environment is inspected beforehand and restrictions made on the areas to be used. Unsafe or potentially hazardous areas are to cones off or marked as out of bounds.
- Glass or litter is removed from the area.
- Walking if unsure of their ability to tackle a certain part of the route.
- Warning signs to the public are displayed if beginner training is being carried out in a closed area.
- Warn other users if on adjoining areas.
- The route is explained to other leaders and contact arrangements made if possible in the event of incidents or delays (use of personal radios).
- Contingency plans (if any) if the preferred route is unavailable.
- The activity is suspended if participants are at a high risk of serious or severe injury due to any reason.

Remember that the cyclists must experience exposure to hazards in their everyday cycling and so it is of no benefit to eliminate these hazards from training or activity sessions.

Sources and acknowledgements:
CTC – Adult Cycle Training Guide
Cycle Training UK – Instructors Manual.
RoSPA – code of conduct