

Prevention of Cyclist Injury

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PREVENTION OF CYCLIST INJURY IN THE 5 - 15 YEAR AGE GROUP

THE FACTS

- o 93% of children age 6-16 ride bikes.¹
- o Trauma (injury) is the leading cause of death in school age children. Cycling activities claim 15% of these deaths.²
- o 75% of all cyclist deaths involve head injuries.
- o Most incidents causing injury occur less than five blocks from home.³
- o Up to 85% of serious head injuries could be prevented by wearing bicycle helmets.⁴
- o It is estimated that fewer than 5% of cyclists wear helmets.⁵

Cycling is a fast growing sport and mode of transportation. It is cheap, non-polluting and enjoyed by people of all ages.

Children are introduced to cycling as play when very young. As they gain skill and some sense of the road, the transition from toy to transportation is made and supervision is relaxed appropriately. But, because children are children, they are apt to act spontaneously, quickly, and without apparent regard for danger. They often lack the skill to take evasive action. Thus when a child cyclist meets a motorist who might not be prepared or able to evade a potentially dangerous situation, both are at great risk of grave consequences.

As a child ages and gains increasing independence, parents and caretakers have proportionately less control of where the cycle is ridden and how it is used. It should not be surprising then, that bicycle-related falls and crashes, resulting in injury, increase alarmingly through ages 5 to 15.

¹. Ontario Head Injury Association, 1-800-267-6817.

². Hospital for Sick Children and Kiwanis Injury Prevention and Research Program, Children's Bike Helmet Coalition Resource Guide, Toronto: Trauma Program, Hospital for Sick Children, August 1992.

³. Ontario Head Injury Association.

⁴. Thompson, R.S., F.P. Rivera, D.C. Thompson, A Case Control Study of the Effectiveness of Bicycle Safety Helmets, N. Engl. J. Med. 1989, 320: 1361-1367.

⁵. Ibid, fn. no. 2.

Hospital For Sick Children Study

Researchers from the Hospital for Sick Children in Toronto, conducted a study⁶ on all cycling deaths in the 0-15 year age group in Ontario over a four-year period, from 1985 to 1989. Of the 81 deaths that occurred, they discovered that most of them were from injuries deemed unsurvivable (99% sustaining head and neck injuries)

- o Helmets were not worn by those who died.
- o Over 95% of the deaths involved collision with motor vehicles.
- o In 70% of the collisions, the cyclist was considered to have caused the collision, either by violation of a road traffic law or by poor road sense.

These findings suggest that:

- o Bicycle safety education for children and their caretakers should receive more emphasis.
- o Usage of protective equipment (helmets especially) should be encouraged.
- o Motor vehicle operators should be educated about the potential for collision with young cyclists and trained in evasive action techniques.

WHAT CAN BE DONE ABOUT THIS SITUATION ?

Using the information provided by research:

- o Most of the deaths happen when cyclists come into collision with vehicles.
- o Violation of a road traffic law or poor road sense are noted as causal factors.
- o Helmets provide protection by reducing the risk of head and brain injury, but do not prevent the incident.

combined with what we intuitively know about children:

- o Children's lives are governed by parents, caretakers, teachers, coaches, etc.
- o They are not always acutely aware of their environment and are easily distracted.
- o Their activities are influenced by their peers.

provides you with an opportunity to look at the whole picture and decide what interventions would be most appropriate and worthwhile in your community.

INTERVENTIONS

In injury prevention, the specific measures used to achieve program objectives, and in turn the goal, are called interventions. Three types of interventions provide you with a variety of approaches. You can persuade, require or protect.

Persuasion uses education to develop desired behaviour change.

Requirement employs the enforcement of existing legislation to create a safe environment.

Protection uses design and technology to create an environment in which protection is engineered.

All three of these interventions can be employed simultaneously as you look at the ways in which to build a strategy for your community.

⁶ Ibid, fn. no. 2.

Persuade

Educate, advertise, counsel to:

- o promote attention to road traffic laws
- o teach road skill and sense
- o teach motorist anticipation of cyclist behaviour
- o communicate the protective value of helmet use

Require

Use enforcement, legislation, regulation to:

- o enforce existing traffic laws regarding cycling
- o develop a helmet policy within families and within schools
- o support the advocacy movement for legislated-helmet use, safe cycling lanes and cycling routes in your community

Protect

Use the products of technology, engineering and design to:

- o encourage use of helmets and other protective equipment such as lights, flags,

**How To Get Started: Refer to
THE ACTION STEPS**

- o reflectors and reflective clothing.
- o develop dedicated cycling routes



Many communities choose to promote bike helmet use as their first project because helmets provide protection, are visible and are a first step in raising awareness about cycling safety.

→ **ORGANIZE**

- o share your concern
- o form a working group

→ **ASSESS**

- o determine what you need to know about bicycle injuries, bike safety and helmet use in your community
- o find out who can assist with information, expertise or people power (Local Health Unit, District Health Council, community physicians, Ministry of Transportation, Ontario Head Injury Association, police, local sporting goods retailers, cycling club, Boards of Education, specific teacher or principal, service clubs, Injury Prevention Coalitions, youth groups, recreation department)
- o consider who else in your community has a stake in safe cycling
- o recruit assistance from local media

→ **PLAN**

- o determine your goal, objective, strategies
- o determine primary and secondary target populations
- o plan strategy to involve the target groups
 - determine, through discussion, the likes and dislikes of the target population and the role of key influencers such as peers, older children, parents, caregivers and role models in promoting helmet use

- o consider ways to decrease the cost of helmets through bulk purchases or by engaging in one of the comprehensive helmet programs offered by retailers
- o plan for the lag between intention and action by promoting and providing convenient purchase or order opportunities at the time of your activities
- o obtain support and participation of local retailers or helmet suppliers
- o obtain posters, pamphlets and handbooks from the Ministry of Transportation regional office or the provincial information number (1-800-268-4686), the Ontario Head Injury Association (1-800-263-5404) or the Ontario Cycling Association at 1-416-495-4141.
- o decide how you will evaluate your efforts

→ **ACT**

- o carry out your activities according to your action plan
- o carry out occasional reinforcement projects

→ **REVIEW/RENEW/RETURN**

- o follow through with your evaluation plan and analyze your findings
- o write a brief report
- o report increased helmet wearing rates to the local media
- o begin to plan for the next activity

A SAMPLE PROJECT

You are concerned about the cycling safety of the children in your community. You know that the wearing of bicycle helmets can reduce the risk of head and brain injury by 50 to 85%. Few people, especially children, wear helmets regularly. As a first step in a strategy to improve cycling safety, you would like to see more people, especially children, use helmets as a regular part of their cycling activity.

Goal

Your goal may be a broad statement of intent such as: *to decrease death and disability by increasing bicycle helmet use in your community.*

Objective

Your objective should indicate the target, the time frame and a reachable, realistic change: *to double the wearing of bicycle helmets in the junior and intermediate school populations each year for the duration of the project.*

You will then need to determine the best way to reach the target population. Your group can brainstorm various strategies, specific interventions and "do-able" activities for your community. As you set your objectives, you need to be able to describe the situation before intervention begins.

1. Measure Pre-intervention Helmet Use

Develop a starting point or baseline from which to measure the outcome of your efforts. In order to do this, you will need to know:

the number of children who comprise the target, and

how many already wear helmets.

Choose a location where the count will take place (The entrance to the school yard is a stable observation point.)

Limit counts to students who ride their bikes to school, to maintain a consistent population.

Use the same counting method and location before and after your interventions (activities) so that the comparison counts will be valid and convincing.

Communicate your intention to observe at school sites to the police and principal. Children and school officials have become wary of persons who appear to be lingering or observing the habits of individuals.

As an alternative, self-report helmet use surveys administered by classroom teachers have proven reliable.

2. Evaluate Other Activities

Refer to the *Action Steps* for the questions that will help you measure the success of your other activities.

Supporting Activities

Many community groups have opted for variations on a bicycle helmet fair, bike rodeo, and helmet parade. The examples cited are just a few of the ideas that can be incorporated into a strategy to increase bicycle safety. Some of these activities have been carried out successfully in other communities, some are new. You can use your imagination to build on what has been done elsewhere.

If activities are staggered throughout the year, you should be able to keep cycling safety in the public eye. Consider reinforcing desired behaviours with incentives such as holding occasional helmet/smart cycling recognition days.

Many action groups have also chosen to advocate for legislated helmet use. It is through their support that a Private Member's Bill to amend the Highway Traffic Act is progressing through the law-making process.

Bike Helmet Fair⁷

Goal To promote safe cycling

Objective Over a period of several months to prepare an activity that will:

- a) educate children in grades 4-8 and their parents about the importance of wearing helmets
- b) provide helmets for purchase.

Participants Action group, police, health professionals, schools, media, retailers, recreation departments etc.

Activities An event in which bicycle helmets may be ordered or purchased.

Resources Helmets for display, volunteers trained to demonstrate fit, order forms or helmets for purchase, support activities that are fun.

✓ Task Checklist

Over a period of time, ranging from one month to six, you will need to :

- ✓ *Meet* with potential partners
- ✓ *Identify* resources needed (people and funds), and resources available, including potential guest speakers or endorsements
- ✓ *Organize* teams for publicity, police and professional liaisons, resources, education, programs.
- ✓ *Solicit* endorsement of the local council.
- ✓ *Finalize* objectives and activities
- ✓ *Determine* method of evaluation
- ✓ *Designate* a coordinator for volunteers.
- ✓ *Determine* budget and fundraising needs.
- ✓ *Develop* a slogan or logo
- ✓ *Train* volunteers, for helmet fitting, equipment handling and other activities.
- ✓ *Finalize* events and schedule.
- ✓ *Host* your event
- ✓ *Send* appreciation letters
- ✓ *Pay* bills
- ✓ *Summarize and evaluate* results
- ✓ *Send* a final report to all sponsors and participants.

Bike Rodeo

Goal To promote safe cycling

Objective To create a participative activity that will test riding skills, rules of the road, safety measures, bike maintenance check and be fun for children in Grades 3-8.

Activities Testing stations and appropriate support activities

Resources Trained volunteers, testing materials, incentives

A Helmet-Cycle Parade

Goal To promote safe cycling

Objective To increase the visibility of helmet use

Activity Parade through a prominent location in community. Include appropriate activities from the support list.

Resources Police assistance, trained volunteers, municipal assistance, school and/or parent commitment depending on location.

⁷. Steps in planning a bike helmet fair are adapted from the Children's Bike Helmet Coalition coordinated by the Hospital for Sick Children+Kiwans Injury Prevention and Research Program.

Cycle-Smart Day

Goal To raise community awareness about safe cycling

Objective To declare a particular day as Cycle Smart Day and to organize events to support the declaration

Activity Organize activities that will be fun, attract media, require participation. (Helmet parade, Rodeo, Helmet Fair)

For children: stress riding skills and knowledge of traffic laws. **For adults:** activity that would demonstrate motorist's need to be vigilant to children's cycling behaviours.

Driver Awareness Campaign

Goal To increase driver alertness to anticipate the behaviour of children on bicycles and increase capacity to take evasive action when necessary

Objective To design a local media campaign that reminds motorists that children on bikes are not always alert to, or aware of danger.

Activity Develop PSA's by local children reminding motorists to be alert and PSA's to remind peers to be alert to vehicles. Develop a poster campaign by children for posting in public places, liquor and beer stores and drinking establishments.

Support Activities

Child Education Activities

- o Have children create their own posters, songs, raps, skits, about bicycle safety. Plan to have these events performed or displayed during the designated week
- o Show films (The Hospital for Sick Children has a Resource List available. Among the many items, information is given for some films that are available from various sources.*)
- o Initiate classroom discussion about bicycle safety.
- o Encourage teachers to include safety considerations from the bicycle handbook in maths, science and reading activities.
- o Involve older children in planning and organizing.
- o Ensure that bicycle helmets are worn for all school activities and trips.
- o Develop incentives for regular use (certificate, coupons).
- o Use helmets and other equipment as the prizes.
- o Hold a raffle to raise money for the fair.

Parent Awareness

- O Prepare newsletters that contain information about why approved helmets are important, and tips to encourage the wearing of helmets.
 - o Encourage parents to be role models.
 - o Include a price range so that parents can budget for purchase.
 - o Suggest a parent/child pledge to save a specific amount together over the time before the fair.
 - o Encourage volunteer participation.

Presentations

- o Cycling expert or community service officer visits to instruct children regarding rules of the road.
- o Local health expert visits to discuss the brain, its function, and the consequences of head injury.

* Many of the associations referred to in the *Sources of Resources* have literature or films available for sale or loan. Many also have print resources that are available, some free of charge.

COMMUNITY STORIES

A number of communities throughout Ontario have become active in promoting cycling safety. These are two examples.

GODERICH

History

Goderich, on the scenic east shore of Lake Huron, is a community of 7500 permanent residents. It attracts many more during the summer holiday season.

The Rourke family, members of this community, had always worn bicycle helmets. When one of the children began to resist the practice, family discussion about this new development led the parents to realize that few other children in the community wore bike helmets. As they sorted out the problem, the family concluded that it would be easier to continue the "helmet-habit" if it was a more common practice throughout the community.

Recognition that a problem exists, discussion and agreement to seek a solution suitable to all, were the steps employed in family problem solving. This approach also pointed the way to community action.

Convinced of the protective value of bicycle helmets, the task for the Rourkes then became the pursuit of a way to persuade young members of the community and their parents that the wearing of bicycle helmets could significantly reduce the risk of serious injury.

In her practice as a family physician, Leslie Rourke⁸ already had access to the Canadian Medical Association/Sandoz Bicycle Helmet Offer, but required more information, ideas and contacts. She had discussed her concerns with a few other people, but did not know where to begin. Through word-of-mouth she heard about and followed up with the Children's Bike Helmet Coalition at the Hospital For Sick Children. Initial organizing steps and information about where to find posters and materials was offered.

The Ontario Head Injury Association and the Ministry of Transportation were also contacted and provided information, posters and materials.

⁸ 53 North St., Goderich, ON N7A 2T5. Telephone (519) 524-7303 (Dr. Leslie Rourke).

As sometimes happens, activity was stimulated by an unexpected event. Laura Robinson, a former member of

the National Cycling Squad and Ontario Cycling Team, and affiliated with the Children's Bike Helmet Coalition, contacted Leslie and offered to speak with the group. Leslie accepted, then quickly pulled together a working group. The committee was made up of the police chief, trustees from the two school boards, a parent who was also involved in the local newspaper, the director of the recreation department, the Director of Nursing at the Health Unit and a businessman and, later, the school principals.

The excitement generated amongst the group with the visit of Laura Robinson and the possibility of her participation in a future public meeting led to immediate action. Over a series of three lunch-time meetings, goals were established, activities chosen, a time-table written and a media blitz organized.

The Goderich Bicycle Helmet Safety Committee planned an approach that would embrace children, their parents, the high school, community businesses, the Medical Society and the Health Unit.

Activities

Activities included an initial count of the children wearing helmets while riding bikes to school, fund raising, age specific activities such as colouring and poster contest, newspaper features and ads, local declaration of October 1991 as Bike Helmet Safety Month, assemblies, a public meeting, and an opportunity to partake of a bulk helmet order. The bulk order (250) of which many were for adults, resulted in a further discount. It also quickly converted intention to action. Ordering of a few extra helmets of varying sizes proved useful as exchanges for the few that didn't fit, and as contest prizes.

The community became involved in many ways. Members of the local Art Club judged the colouring and poster contest. The Rotary Club provided helmets as prizes. Other service clubs, several local industries and the Goderich Medical Society assisted in sponsorship. Assemblies for the junior students were held at the high school, a memorable occasion for many. The high school drama club performed a series of vignettes during assemblies with Laura Robinson as guest speaker. As well, a public information meeting was held to educate parents and provide examples of different designs of helmets.

The next spring, the police department organized a Bicycle Safety Day and Rodeo for each of the elementary schools. Activities were carried out with the assistance of senior students and parent volunteers. Again, the community was called upon to participate and to support.

Local Brownie and Cub Packs awarded cycling badges for their members who had participated in the rodeo. Several local businesses, including Canadian Tire and McDonald's provided prizes and contents of the "grab bags" given to participants. Students had a written test, a skill-test (intersection behaviours, diminishing lane manoeuvres and figure eights), a bicycle check with application of reflector tape, and sale of bike licences (\$1.00). The grand prize was a ride in the McDonald's blimp, scheduled to visit the community.

The local newspaper and Health Unit each ran another article regarding the committee's activities, and reminded families about cycling safety during the summer.

Over the summer, the police gave out T-shirts (co-sponsored by local insurance brokers and a sporting goods store) as incentives for adults and children seen to be wearing helmets and cycling safely.

The excitement and success that was generated made for greater interest in the project and promoted discussion of how to increase further wearing rates. Plans to make helmets more accessible in situations where cost would prohibit their use are under way.

Many of the community of Goderich had participated in the helmet campaign activities. Commitment to the cause of rider safety was reaffirmed and renewed when a short time later, a nine-year old child was killed while riding out from a side street. Unfortunately, he had not been wearing a helmet.

The tragedy touched the whole community: schools, the child's baseball team, parents and those who worked on the campaign. As often happens, the death of a community member becomes a reminder of the protective value of specific actions. Within a few days all stores had sold out of helmets.

The Bicycle Helmet Safety Program had begun its activities before this tragedy struck, and had sensitized a portion of the community, but much work remains. The community of Goderich continues to plan for increased helmet use, and has consulted with neighbouring

communities to share ideas. The work has been time consuming, but worthwhile. The work has been successful in increasing helmet use.

Results

Currently, the committee is re-evaluating its role. A new police chief is enthusiastically planning a series of bicycle rodeos run by his officers. A helmet safety kit offered by a corporate sponsor is being considered. The committee has changed its name from the Goderich Bicycle Helmet Safety Committee to the Goderich Cycling Safety Committee and is looking at more diverse ways to increase cycling safety and enjoyment.

HALDIMAND-NORFOLK

In another example of community action, the project that was developed in the Town of Simcoe and the Region of Haldimand-Norfolk has become a model for a national bike helmet campaign.

Constable Doug Friesen,⁹ a community services officer with the regional police, worked with a local retailer to reach parents with information about cycling helmets and to provide an opportunity to order affordable helmets. Through their combined efforts, as well as with support from the school board and the health unit, the whole region became involved. The project, promoted for the month of October 1992, resulted in the sale of over 3000 helmets. The plan that started in Haldimand-Norfolk soon became the model for a national campaign by Canadian Tire Corporation to provide helmets at discount prices and provide support to bicycle helmet campaigns. Committed leadership and committed partnerships can make a seemingly impossible task "doable."

⁹ c/o Simcoe Regional Police. Tel: (519) 426-1212.

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