

# Teach your child to ride a bicycle, quickly and safely

## “How to” guidelines for parents of young children

By Gary Moller

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The [Healthandlifestyle](http://www.healthandlifestyle.co.nz) web site has other papers and articles and lots of other interesting stuff being added all the time about health, fitness, injury prevention, rehabilitation and high performance sports.

**Contact details:**

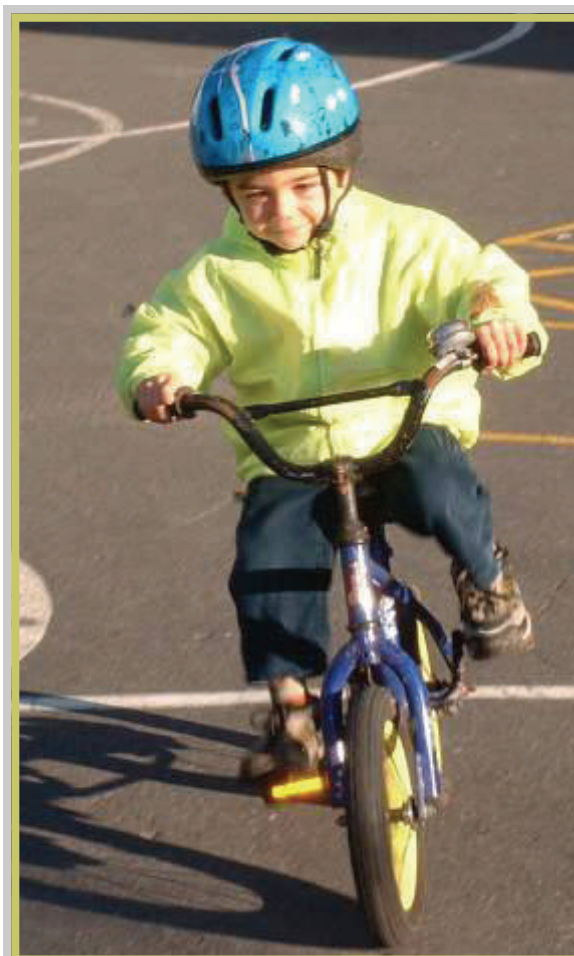
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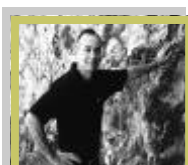
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The following people helped  
make this publication possible:

Alofa Kosena  
Alama Moller  
Myra Moller  
Mary-Ann Moller  
Kelvin Moller



Alama Moller @ 4 years



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### My four children



Including Myra, who learned to ride when a 5 year old using the methods described in this publication.

Myra represented the Cook Islands at the 2006 Melbourne Commonwealth Games in mountain biking.

## Introduction

Riding a bicycle is an activity that every Kiwi child wants to do. When I was a child during the 1950's and 1960's, we rode everywhere. Our parents never drove us to school. Riding a bike was a safe thing to do.



Things are different today and riding a bike is no longer the safe activity it used to be. We live in heavily built up areas, the roads are busier and the traffic much faster and possibly less tolerant of other road users.

However, riding a bike need not be the dangerous activity it appears, if our children learn the basics from an early stage.

Riding a bike is a high-skill activity. It requires highly developed balance and coordination, plus an acute awareness of one's surroundings and the ability to assess, anticipate and react to constantly changing circumstances. Just like swimming, the best time to learn such skills is while the brain is developing. Hard-wiring complex skills early on ensures that your child has them for life. Even after a lengthy break, those old skills are reactivated within minutes of recommencing.

The best age for learning a skill like riding a bike is at about 4-8 years of age. Done the right way, your child will pick it up with astonishing speed. In just a couple of sessions I can show you how to have your child riding a bike without ever having to use those horrible attachments called "Trainer Wheels". They are horrible because they teach your child poor skills and actually delay by many sessions your child riding freely and

independently.

Learning the skills of riding are but part of the process. The more important and more challenging part is learning road sense; knowing when to stop, look listen; how to anticipate what is going on up ahead; crossing the road, how to safely mount the kerb; climb and descend hills and, of course, how to apply the brakes in an emergency.

Some things like road sense are limited by a child's stage of cognitive development and will probably not be near full development until 16 years or older, so it is on the parent to ensure that the cycling environment is appropriate to a child's cognitive development, as well as riding ability.

Mountain biking is a wonderful sport that has obvious appeal for the parent wanting to have their child ride safe in the knowledge that there are no cars about. Be warned: introducing your child prematurely, or in the wrong way, to off-road riding is a sure way to put them off riding a bike for life. But fear not—help is at hand. I will show you how it is done.

### Skills first—Speed last

By concentrating on skills development from pre-school years, Myra has achieved international ranking as a junior without ever having had to consult a doctor about an injury.



# Choosing a bike

Choose the bike carefully. Not any bike will do.

Make sure that the bike matches the size of your child. Err on the small side. As your child grows, you can gradually raise the seat, adjust the handlebars and finally graduate to a larger frame later on. A bike that is too large will cause the following problems:

- It will be too heavy for your child and take away so much of the enjoyment of riding
- The weight will cause numerous falls
- The bike may be impossible to lift off the ground each time it falls over
- Your child will have trouble getting underway and with safely stopping without falling over

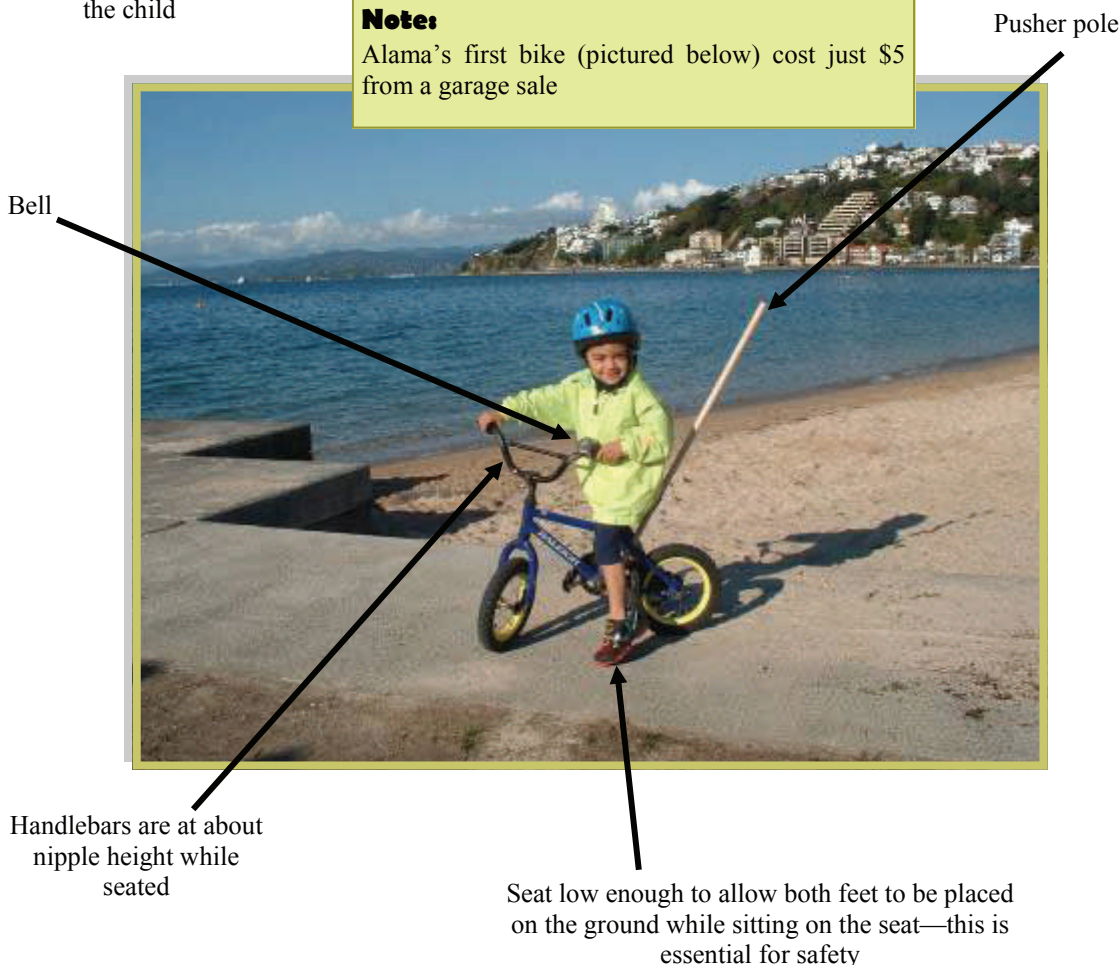
- The lighter the better
- No gears
- Short pedal cranks
- No hand brakes— Install later when little hands are stronger and little brain can handle more than one thing in an emergency! The bike must have a rear hub brake that is operated by back-peddalling
- A bell

**DON'T FORGET A HELMET!  
NO HELMET- NO RIDE**

## Essential features

- Make sure that the rear stay design will take the pusher pole (refer Page 5)
- Small frame relative to the child

**Note:**  
Alama's first bike (pictured below) cost just \$5 from a garage sale



## Setting up the bike

- Adjust the seat so that your child can sit on the seat with both feet touching the ground
- Inflate the tyres so that they are slightly depressed by the weight of your child. If too hard, he may lose control on bumps and stones. If too soft, control is equally affected. 15-20 psi is usually about right

- Adjust the handlebars forward or backward so that the elbows are bent to about right angles

- Slide the seat forward or backwards so that the knee of the forward foot is about right angles and plumb with the foot on the pedal when the pedals are horizontal



- Tilt the seat forward or backward so that it is level

- Brakes: The first bike for a 4-6 year old should have a back-pedal actuated brake only. Unless they are quality handbrakes that are properly adjusted for a child's small and relatively weak hands, forget about them. In addition to having trouble actuating hand-operated brakes, a child will have trouble safely operating the front and rear brakes in the proper sequence. As your child matures, you can add a quality front handbrake. When you later upgrade to a bike with gears, this would be the time to switch to standard adult braking systems.

- As your child grows and skills are gained, steadily lower the handlebar position so that an increasingly horizontal posture is assumed while riding

# The pusher pole

This is your replacement for those awful trainer wheels. It is the pusher pole that enables your child to begin riding almost within minutes of starting, and to progressively and safely learn to brake, turn corners, stop, cross roads and so on.

**Note:**

The Pusher Pole can not be fitted to bikes that have rear calliper brakes fitted because the clamping system for the pole uses the rear brake stays of the bike frame



## Making your own pusher pole

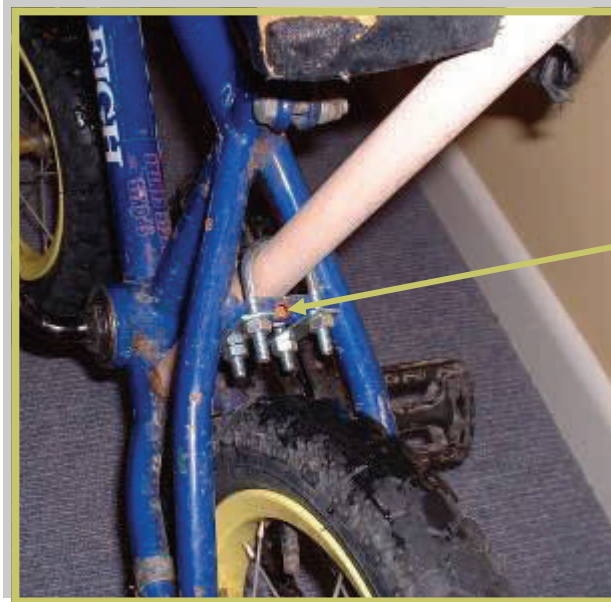
The pusher pole will cost you about \$10 with all parts available from your local hardware:

- One 20mm broomstick
- Two 20mm metal “U” bolts
- Three medium size nylon cable ties

If your child is quite heavy consider a 25 or 30mm pole with similarly sized “U” bolts. But check first to ensure that the pole will fit between the rear stays of the bike frame.

## Fitting the pusher pole

- You might have to remove the bike seat for easier access to the rear of the bike



- Position the pole as illustrated by sliding it between the rear wheel stays and the rear calliper brake bracket.
- Use a saw to shorten the pole so it is about lower chest height for the adult pusher
- Do this before bolting it in place



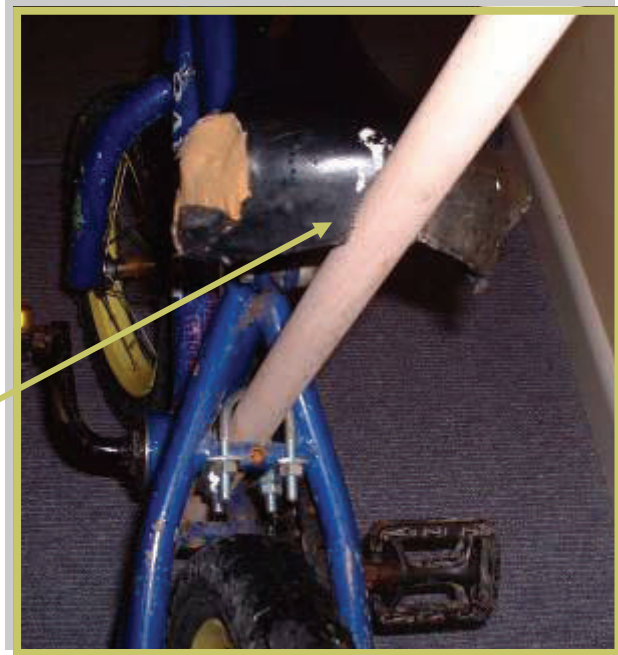
- Fit cable ties here, if needed, to hold pole in position

- Fit the two “U” bolts either side of the bracket that is used to fit a rear calliper brake, so that the pole is firmly clamped to the bike.
- Take careful note of how the bolts are fitted in these photo.
- Do not over tighten

- Fit three cable ties to secure the very bottom of the pole to the bike frame if the frame does not have a bottom reinforcing bracket (the frame in this photo does not need any cable tie reinforcing, since it has a bottom bracket)

- If one of the ties snaps, you have two more in place for safety.

- Refit the seat after you have fitted the pole.



- You might need to carefully cut a notch in the rear of the seat with a hacksaw to make room for the pole.



- If the pole is hard against the rear of the seat this gives extra strength to the pole by taking much stress off the point of the “U” bolts.



# Getting started

1. Go somewhere that is clear of cars, people and any distractions. It should be a flat surface that is free of any hazards like potholes or loose stones. No hills.
2. Always wear a helmet. When learning, wear shoes that cover the ankle bones, wear long pants and a long sleeved top. These are protection against painful falls or bumping of tender shin bones. I recommend that all small children wear bright clothing to enhance visibility.
3. Holding firmly onto the pole allow your child to mount the bike.
4. Once comfortable and confident, encourage your child to pedal while you push gently, walking a little to the side so he/she can see you.
5. Reassure always that you have hold of the pole.
6. Do not teach how to brake yet– too much detail at once will overwhelm him. Braking comes later. Besides, it depends on good balance first.
7. Gradually speed up to a brisk walk, constantly practicing stopping, starting, placing the feet on the ground, pushing off and balancing the bike before going again.
8. During the first few sessions, you will have to hold quite firmly onto the pole. Slowly, almost imperceptibly, loosen your grip. You will quickly get a feel for how your child's balance is coming along.
9. As balance and confidence grows, your job is to gradually reduce your hold on the pusher pole to the point when you release it altogether now and then. You might have to tell a few white lies that you still have a hold when the truth is, you don't!
10. Be prepared to sprint. Once you release your grip, your child might take off without warning. Stay with him/her! Keep the speed down and concentrate firstly on balance skills, including turning and stopping. The speed comes last.



You will get lot's of attention from curious onlookers!

# Gaining independence

## Standing starts

Starting will tend to just happen when your child is ready. The key is balance—being able to balance the moment the bike is underway. You help this by giving the gentlest of pushes on the pole and releasing your hold as your child gets his/her feet on the pedals. Doing this on a slight downward slope will quickly have your child pushing off with your providing only the slightest assistance.



## Braking

Braking is introduced once your child has mastered the basics of balancing, turning corners and knows to



place his/her feet down on the ground upon stopping. That back-peddalling slows the bike will be learned with little need for instructing.

Holding the pole, introduce deliberate braking with the clear command, “STOP!” explaining what it means—coming to a stop by back-peddalling. Be patient. This

might take some time to master. Take your time. You want to instil the reflex action to back pedal to a halt upon hearing the command “STOP!” This may save his/her life later when your child is some distance ahead of you and comes to, say, an intersection, or a when car suddenly reverses out of a driveway.

As proficiency develops, you can fully release your grip on the pole and then gradually stand a distance away. Encourage practicing semi-braking to control speed. This last skill is essential for safely riding downhill.

Cautiously introduce a gentle hill. Help go up by pushing on the pole. Coming down, hold the pole as much as is necessary to assist learning braking without excessive skidding. Do not let him/her get away from you until he/she has done this many, many times because panic will instantly set in, letting the brakes off completely, including possibly trying to put his/her feet down—all with potentially disastrous results!

Introduce, as skill develops, the fun of doing the biggest skids in the world. Do a quick little run up and hit the brake whenever you yell “STOP!” Great fun. This is dependent on your child being quick to get a foot onto the ground once the brake kicks in.



## Figure eights

Figure eight turns are the bread and butter of learning balance and manoeuvring. You could lay out cones or something like a couple of shoes, or use some chalk to draw lines like snakes or other creatures to follow. As he/she gets better at it, make the turns sharper and slower. Keep the speed under control.

As the basics of biking skills are mastered your child discovers a world full of freedom and exhilaration



# Putting your child onto the street

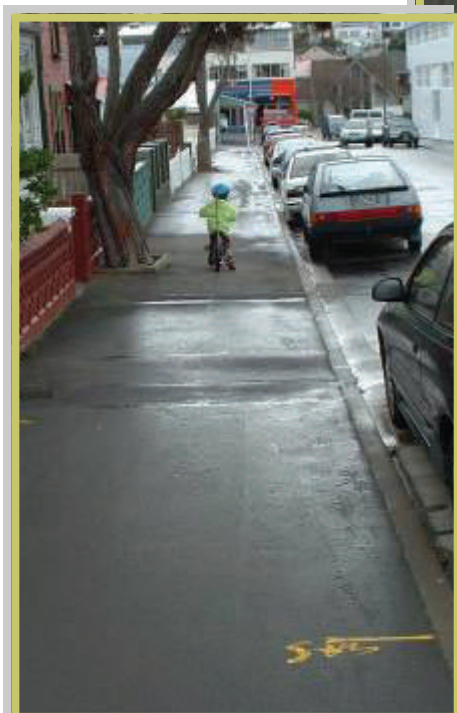
There is no hurry at all to take your child onto the streets. Hazards abound:

- A young child simply does not have the cognitive development to properly identify and appreciate the many hazards that may come from nowhere
- Cars, people, dogs, dust and noise can be in-

- Keep to the footpaths, and keep off the road. Choose an area that is flat and has wide footpaths that are in good condition. You need to be dressed to run so that you are alongside your child at all times, so you can grab hold of the pole any-time.

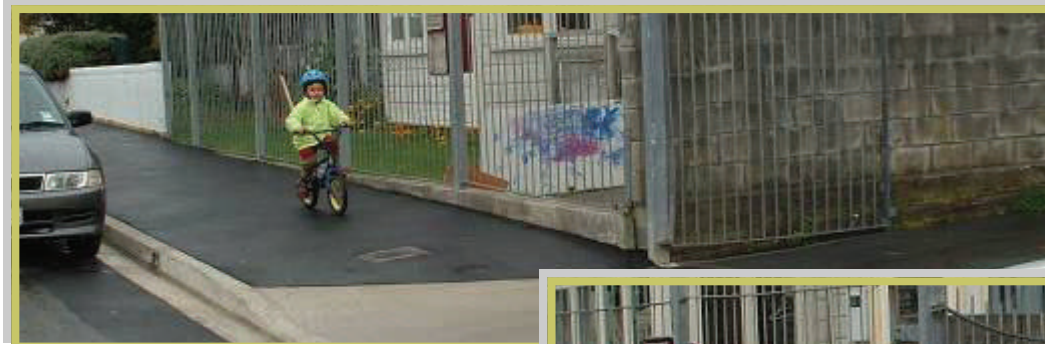
timidating to a small child, especially if biking skills are still underdeveloped

- Reactions in an emergency may disappear (freezing) or may be inappropriate
- Your child is small. Even with bright clothing, his/her profile is low
- Cars reversing down driveways are regular killers of NZ children

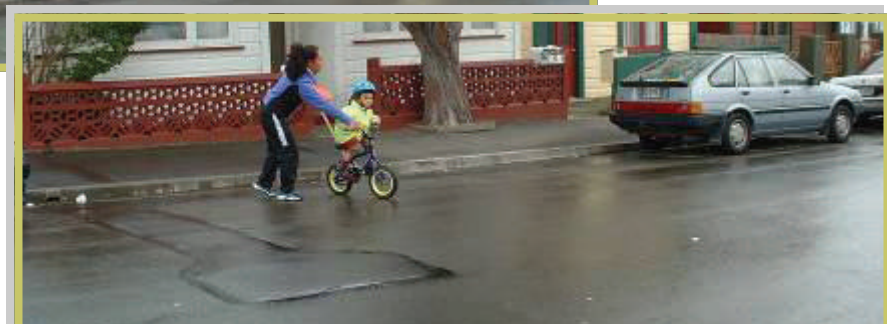
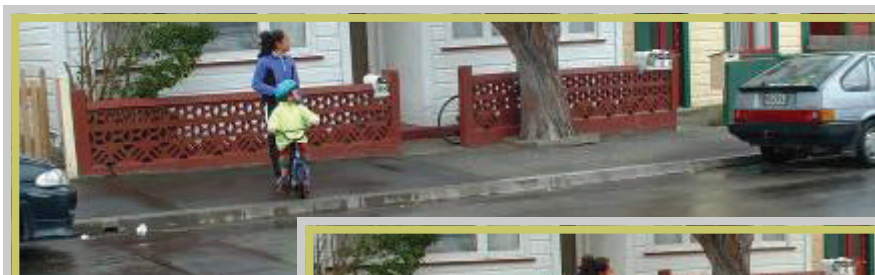


Teach your child to be constantly listening and looking out for hazards like cars coming out of driveways and reward with constant praise

This 4wd coming out of a blind driveway was for real. Thank goodness our little boy knew how to slam on the brake!



- Use clear commands, like “STOP!”, “CAR!”, “BELL!” and “LISTEN!” This is a great opportunity to introduce the concept of left and right with commands like “LEFT-HAND TURN!” and “RIGHT-HAND TURN!”
- Use the “BELL!” command at all blind spots and when coming up on pedestrians and animals.
- Develop the awareness that a car could come in or out of any driveway without warning. Use The “LISTEN!” and “STOP!” commands.



- Obstacles like stones and kerbs that you can easily overcome are huge in relation to a small child



- Stop at all intersections, including pedestrian crossings, then proceed once clear.
- Use the sequence of commands “STOP!” “NO CARS!” “CROSS!” or “GO!” Keep the commands going at all times. Do not relent.
- Give a little push on the pole to help your child get back underway each time.
- Praise good behaviour, such as stopping and looking.



**Tip**

Go letterbox hunting and have educational fun. As you travel the streets, you can introduce your child to numbers. Odd and even numbers, ascending and descending numbers and so on. Introduce the big numbers by a game of dictation out loud: e.g.: “Three, five—thirty-five!” “Four, five—forty-five!” You can use this simple method to introduce your preschooler to quite complex numbers concepts





- On hills, assist with going up by pushing on the pole while power walking.
- You will get very fit and so will your child!



An early introduction to healthy exercise sets your child up for life. And, who knows—international sporting glory?



Myra Moller, NZ MTB representative at just 15 years



# Brakes and braking



- As your child matures, add a quality front handbrake that is adjusted to fit the small hand
- When you later upgrade to a bike with gears, this would be the time to completely switch to standard adult braking systems—hand operated calliper or disc brakes
- 70% of braking power comes from the front brakes, so get in lots of practice stopping on the flat applying both brakes at once without either wheel locking. You will be surprised at how hard one can apply the front as compared to the rear brake.
- The harder the braking, the further back the rider shifts their weight to prevent the rear wheel lifting
- When braking on slippery surfaces, especially when travelling across a slope or descending steeply, apply the rear brake fractionally first, but not to skid, then apply the front as much as is necessary to maintain control, or to stop
- If either wheel begins to lock or slide, use rapid off-on pumping to prevent skidding out of control and always be prepared to put a foot down—the uphill foot!

# To cleat or not to cleat

The best system for fixing feet to the pedals is shoes with cleats that lock into special pedals:

Advantages:

- Up to 40% more pedalling power and stamina
- Much better control of the bike when bouncing about
- Quick release of feet in emergency or dismounting

Cleats are far superior to toe straps and much safer. They are essential for most forms of off-road riding.

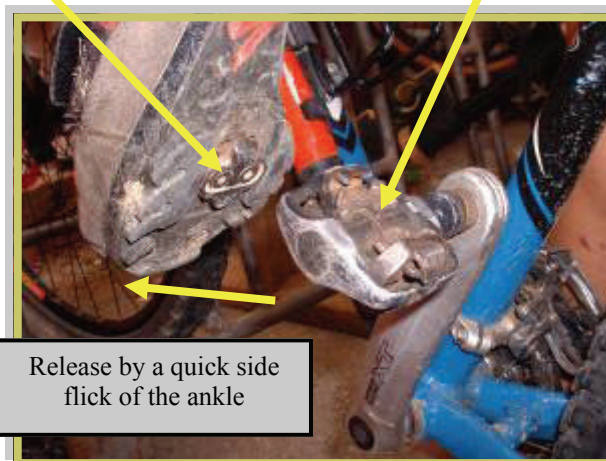
Get your child fitted with cleats from about age 8 or when fully independent riding a bike.

- Adjust the release tension to minimum and ensure the mechanism is kept clean and greased
- Stick to the flat and on grass while learning how to engage and release—a few undignified flops to the side are inevitable!
- Get proficient at engaging and releasing both feet—bike soccer is the fun way to learn and practice
- Learn to pedal properly with cleats—pull up as well as push down using both legs evenly, so that the legs are powering with an even circular action



Metal cleat fastened to base of shoe

Pedal with quick release mechanism that cleated shoe clips into



Release by a quick side flick of the ankle

**Bike soccer**

Our favourite family cycling game is bike soccer, an exhilarating way to hone all of your biking skills, including foot releases, braking and turning. Use an old, partly deflated ball.

Rules:

- No skidding
- No ramming
- All else goes!

# Riding on the road

Cars, trucks, buses and bicycles are a cautious mix at the best of times.

I really do recommend that you keep your child off the road nowadays until he/she is at least 10 years old, proficient in riding skills, tall enough to present a decent visual profile and with the cognitive skills necessary to exercise good judgement.



Brian Lambert—Auckland to Wellington non-stop in less than 20 hours!

Here's a few safety tips:

- The bike must have quality front and rear brakes
- Wear bright clothing, including a brightly coloured helmet
- Wear padded cycling gloves and always wear clothing that covers the hip bones, shoulders and, preferably, the elbows
- Consider fitting a bright safety flag to the bike
- Ride behind your child for as long as is necessary for you to feel comfortable that he/she can ride safely without supervision
- Ride in a straight and predictable line. Do not duck in and out while riding past parked cars
- If a person is sitting in a car, beware that the car door might suddenly open on you—give

them some space

- Be extremely careful when riding between stationary lines of traffic. An opening door, a pedestrian or turning vehicle may floor you!
- Eyeball drivers and pedestrians. If they are turning in, crossing and have not eyeballed you back—beware!
- Always be prepared to brake in built up areas. Have your twitchy fingers on the brakes, ready to stop in an instance
- Do not speed in built up areas, keep your head up looking for hazards ranging from potholes to pets
- Go hard up steep hills and go carefully down them to recover—safe and great for fitness!
- Listen for hazards like a truck coming from behind. Do not use earphones while riding. Ears are life savers
- Never assume you have the right of way and never pick a fight with a motor vehicle. You will always be the loser. Live so you can ride another day
- When it is wet, reduce speed at least 50%. Better still, walk or run.

# Introducing off-road riding

One thing for sure about New Zealand is it sure is a rugged country! And a sure way to put your children off riding bikes is to prematurely introduce them to off-road riding.

- Riding on anything other than hard-packed earth is an effort. Grass, gravel and sand consume enormous energy
- Small obstacles, including kerbs, drains, stones, rocks and puddles may be insurmountable to a small person
- Even small hills may appear to be mountains

Your child is ready for off road (anything other than a gentle rolling park) when he/she:

- Is skilled at braking using hand brakes
- Is proficient at putting left and right feet on the ground when stopping and has cleated cycling shoes
- Has a light bike that has derailleur gears and can operate them faultlessly
- Ideally, a bike with front suspension
- Knobbly tires fitted
- A narrow seat
- Changing gears early in anticipation of climbing the hill
- Shifting the body forwards while climbing
- Shifting the body back behind the seat while descending
- Practice using the brakes to descend the hill slow-motion
- The steeper the descent, or the harder the braking, the further back the body weight is shifted—this is why a narrow seat is essential

Start by locating a flat park area that has a short slope which a bike can run up and down. Practice the following:

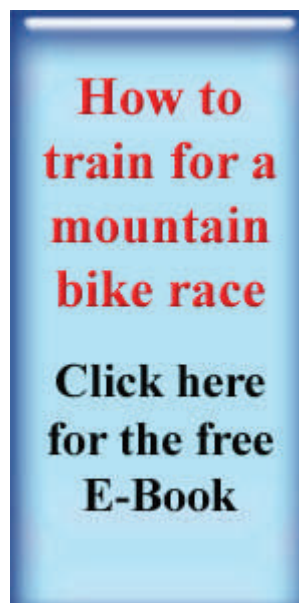
- Doing figure eights on the flat as tightly and slowly as possible while standing on the pedals—bum off the seat.
- Braking as quickly as one can on the flat without skidding and learning to shift the weight behind the seat while doing so
- Practicing shifting the body weight back and forth to lift the wheel over obstacles like logs and potholes
- Changing gears constantly
- Practice always putting down the uphill foot when stopping while riding along a slope—not the foot on the downhill side unless you want to practice tumbling!
- Go to a BMX track and practice going around it again and again and again. As you hit bumps and mounds, get the bum off the seat and let the bike do the rocking and rolling
- Before you take your kids on a trail, check its suitability by riding it yourself earlier on



All of this practicing can be great fun for a group of kids!

## Safety in the outdoors

- Tell someone where you are going and when you expect to be out
- Take a spare tyre and tube
- Have a pump and tools
- Have a warm shower proof top
- Take a little food and water if any distance from your start/exit point
- Take a cell phone if you know it will work where you are going
- Wear gloves and helmet—always!
- I recommend two layers of clothing to reduce the “gravel rash” damage from a fall or slide
- Look ahead, listen and anticipate
- Keep under control at all times
- Speeding downhill injures and sometimes kills. Remember the rule: control comes first—speed second



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The [Healthandlifestyle](http://www.healthandlifestyle.co.nz) web site has other papers and articles and lots of other interesting stuff being added all the time about health, fitness, injury prevention, rehabilitation and high performance sports.

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