

Learning Mountain Unicycling

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January 4, 2012

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1 What is Mountain Unicycling?

Mountain unicycling (muni) is the unicycling equivalent of mountain biking, that is, it is the riding of unicycles on 'off-road' terrain.

There are three main types of mountain unicycling:

- Cross country
- Downhill
- Uphill

1.1 Cross Country

Cross country mountain unicycling is the riding of unicycles on 'off-road' (usually dirt) tracks which contain neither significant downhill sections nor significant uphill sections. It may contain some technical features (obstacles), but these will mainly be normal terrain features such as small rocky sections, small drops, tree roots, etc.

1.2 Downhill

Downhill mountain unicycling is muni riding which concentrates on being able to ride, usually technical, steep downhill tracks. The technical features of downhill muni often involve larger drops. The ability to bring the unicycle to a stop, balance, and hop down/over obstacles is generally required.

1.3 Uphill

Uphill mountain unicycling is muni riding which concentrates on being able to ride steep uphill tracks. The tracks may be technical, in which case hopping is usually required in order to climb up/over obstacles.

1.4 Remember the Basics

Unicycling, like riding a bike, seems to be a mainly subconscious effort (that is you generally don't have to think about every little thing that is going on) once you have learnt to stay up on it. The more you practice, the less you consciously think about it (making it more of a subconscious process). In order to teach your subconscious how to do something, seems to require repeated practice and mistakes. This is why, just like with a bike, you can't just get on to a unicycle for the first time and ride it. Unfortunately, this also tends to mean that the slightest change in the unicycle, or the terrain, means that you generally have to learn how that change affects how you ride the unicycle. You can see this if you change something to do with the unicycle, like try riding a different sized wheel, or try riding with different crank lengths (or if you are feeling adventurous, get a geared hub and try riding after changing gears!!). Similarly changing the type of terrain that you are riding on may mean that you need to relearn some aspects of riding. It is generally quicker to pick up the differences than to start from scratch, as you have already learnt the basics of balancing on a unicycle.

You will probably find that just after you have learnt to ride a unicycle, then the simplest of obstacles, like riding over a small twig, will cause you to fall off. This is a problem if you want to ride over rough terrain!

Unicycling seems to be about knowing how the unicycle is going to react over different terrain/situations, and adjusting your balance and riding accordingly. Unfortunately, as this is a largely subconscious thought process, you can only learn this by trying to do something and seeing what happens. Your subconscious brain then quietly works out what it needs to make your body do (which usually involves sticking one or both of your arms out somewhere, but can, when you get more advanced, involve a rebalancing hop or two), in order to keep you balanced and riding the unicycle. This is helped by getting a feel for the pedal to lean ratio, that is, how much you need to pedal for the amount of lean you have. This will vary depending on wheel size and steepness of the terrain, but is generally picked up with practice reasonably quickly. A greater forward lean (generally required when riding up hill) will require faster pedalling. More speed will obviously require faster pedalling (since unicycles generally don't have gears), which will require more forward (assuming you aren't riding backwards) lean. A greater backward lean (generally required when riding down hill) will require harder backward pushes on the pedals (to slow you down).

1.5 Safety and Courtesy

It is worth remembering that unicycles, not having either brakes nor the ability to free wheel, will generally be ridden somewhat slower than bikes are. As such, you should always be aware that there is the risk of speeding bikes coming up behind you and, depending on track visibility, possibly running in to the back of you. Since bikes do have a free wheeling hub, gears, brakes, and ride quicker than unicyclists, they often generate enough noise such that you can hear them coming.

If you stop riding, do not block the track – move to the side with your unicycle.

Before starting to ride – mounting or stepping back on to the track – check for bikes. It is a good idea to both look and to listen quietly for a few seconds (as you can often hear bikes which you can't see due to corners/trees and other obstacles).

You only have to ride around the lake a few times to realise just how annoying it is to have someone blindly step out on to the path in front of you!

2 Getting Started

If you are thinking of taking up mountain unicycling, then you should be at the ‘stay upright’ stage of learning to ride a unicycle. That is, you should be able to ride freely (without having to hold on to anything) across open space. The ability to free mount isn’t necessary, but it can be handy depending on where you are riding. Tracks often have trees and other features which can be used to help a non-free mounting rider mount.

Riding a unicycle over off-road terrain and mountain bike tracks is obviously different to riding a unicycle over flat smooth ground! It is a lot harder, takes somewhat more energy than normal riding (both unicycles and bikes), and takes extra time to learn (on top of learning to initially ride).

Remember unicycles can’t free-wheel, so unicyclists don’t even get to rest on downhill sections! Also, the lack of gears means that you can’t drop down gears to make it easier to climb hills – you have to climb with your unicycle as it is – which often means having to push more than a bike rider would (consequently it is not unusual to overtake some of the slower bike riders when climbing hills).

Don’t be discouraged if you find yourself falling off a lot, or getting tired quickly, especially if you are riding over some technical or uphill sections. Learning muni is a little bit like learning to ride a unicycle all over again, and you may also find that you are lifting yourself off the seat quite a bit while riding, which will put a lot more strain on your legs and will tend to tire you out quicker.

There’s nothing particularly wrong with lifting yourself off the seat while riding – in fact in some situations it is probably a good idea, especially for male riders – but it will tire you quicker, so it is better to improve your riding in order to lessen the amount of time that you need to lift yourself off the seat. For example it is often easier to stand up when riding up hills, just like when you are riding a bike up a hill, as doing so allows you to apply more push on the pedals (as does holding on to the handle on the front of a unicycle seat). More uphill riding will help to build muscle, which will in turn allow you to do more uphill riding while sitting on the seat.

Like learning to ride initially, you should get better with practice. Varying the terrain will help you learn and practice new skills, and repeated practice will help you build the necessary muscles so you can ride more/walk less, ride for longer, ride steeper hills, and have more fun!

Despite being hard work, it can be good fun (not to mention good exercise), and then there’s the sense of achievement when you manage to ride over a tricky section, or make it to the top of a hill (which can also bring good views). Riding with others can make it more enjoyable and seem like less of a chore!

2.1 Choice of Unicycle

Since unicycles generally don’t have gears, it is better to start with a smaller wheel and longer cranks. However, there is a bit of a trade off. While a smaller wheel is essentially a lower gear and hence easier to climb hills with, it is also slower and harder to roll over obstacles with (similarly to how it is easier for a person with longer legs, like an adult, to climb up a step, than it is for a person with shorter legs, like a toddler, to climb the same step).

Having said that, a 20” trials (to get the wider knobbly tyre) unicycle can be a good starting point (particularly for children who normally ride a 20”).

Adults may want to start with a 24" muni (again, to get the wider knobby tyre), especially if they already ride a 24" unicycle.

After you've been riding a 20" trails for a while, you will start to get tired of riding for ages and not getting anywhere! That's when it is time to swap your 20" for a 24".

Crank length can also affect your ability to ride quickly and is another way of effectively changing gear. Shorter cranks make it easier to pedal quickly and effectively behave like a higher gear, while longer cranks make it harder to pedal quickly (as your leg has to move a lot farther per revolution) and effectively behave like a lower gear. For muni riding you will generally want longer cranks to make it easier to climb hills, and easier to control your speed on the downhill sections.

2.2 Slight Uphill

After you can ride freely, try riding up a slight uphill. This will require you to both lean forward and to push slightly harder on the pedals, than normal. Holding on to the handle on the front of the unicycle seat can make it easier to push down on the pedals, although this usually only becomes necessary on steeper hills, and will depend on your muscles. The amount of extra forward lean required will depend on the steepness of the hill, and the size of the unicycle wheel. The amount of extra pedal pushing required will depend on the steepness of the hill, the size of the unicycle wheel, the length of the cranks, and the amount of forward lean you have. Obviously, as you start riding up steeper and steeper hills, you require more leg muscle to provide the extra push required on the pedals.

2.2.1 Problems

Generally the only problem you are likely to have is with the forward lean. If you have too much forward lean, then you will usually just end up stepping off the front of the unicycle (and on steeper hills, pushing the unicycle back down the hill!). If you don't have enough forward lean, then you will generally be unable to provide enough push on the pedals and will generally end up stepping (or falling?!) off the back of the unicycle.

2.3 Slight Downhill

After you have tried riding up some small uphill, try a slight downhill, but remember that you (more than likely) don't have a brake!!

Riding downhill will require you to both lean backward and to push backward on the pedals in order to slow the unicycle down. This backwards pushing on the pedals seems to require the development of an extra muscle in the legs, which will develop with downhill practice. Like uphill riding, the amount of backward lean will depend on the steepness of the hill, and the size of the unicycle wheel. The amount of backward push that you need to apply to the pedals will depend on the steepness of the hill, the size of the unicycle wheel, and the length of the cranks.

2.3.1 Problems

Be careful with downhill riding! Most unicycles do not have breaks which means that it is up to you and your leg strength to keep the unicycle's speed under control. This seems to require the development of a separate muscle which seems to happen as you practice more downhill riding. Depending on the wheel size, steepness of the hill, and accumulated speed, it is possible for a rider to be lifted up off the seat even when applying all their weight to the pedals! Should this happen it is probably a good idea to bail by jumping off the back of the unicycle.

Do not attempt to ride down a hill with a road at the bottom (or on a road!) until you have enough (experience based) confidence that you will be able to control the unicycle!

3 Going Off-Road

Your first step to learning unicycle is to start venturing 'off road'. The best way to do this is to find a flat area consisting of some slightly bumpy dirt. The area should have a large enough smooth area to enable you to mount/start riding and get your balance and to get up to a comfortable speed before you get to the bumps. If there is a path or a carpark, with a dirt path or extra car parking running off it, then that would be a good place to start.

You will probably find that the bumps cause you to fall off the front of the unicycle at first, more than likely on to your feet, but you should be prepared for a hands-and-knees landing. This is because the bumps are causing the unicycle to suddenly slow down and you are not expecting this and so you are not adjusting your balance/peddalling to compensate. Getting this right comes with practice!

3.1 Handling Bumps

The bumps basically act the same as a series of very small hills, in that you need to lean forward slightly (but not too much!) and push a little harder on the pedals (again, be careful – don't push too much for the amount of lean you have), in order to climb over them. This is where having some extra speed can help, as the more speed you have, the more momentum you have. This extra momentum helps the unicycle to ride up over the bumps without you having to push on the pedals as much. Try to keep your speed up while riding over bumpy ground, because if you slow down too much you will lose momentum and then it becomes harder to push the unicycle over the bumps. This generally either results in you falling off the front of the unicycle, or a lot of extra pushing the result of which is sore legs!

Try experimenting with your speed. Try entering the bumpy area at different speeds and see what difference it makes. You should find it more difficult at slower speeds, and easier at faster speeds. Be careful though, because if you hit the bumps with too much speed, you may 'get air' and possibly bounce the unicycle (depending on the speed and size of the bumps).

3.2 Handling (small) Rocky Sections

You may encounter sections of small (ranging in size from that of a golf ball to that of a small apple) rocks. These are similar to sections of bumpy track, however, they are a little harder because the individual rocks can have a steep (often vertical) incline on the leading edge, where as the bumps on bumpy track sections tend not to have such steep edges. Momentum (and hence a good speed) is more important on rocky sections than it is on bumpy track, to help you push the unicycle up the potentially steeper leading edges on the rocks.

To ride over small rocky sections use your legs to lift yourself off the seat slightly. This gives you a little bit of suspension (which mountain bikes have built in to them, but unicycles don't), and is especially important for male riders! Also, get your speed up a little – you will need slightly more speed than you would riding over the same bit of ground if it was smooth. It is also important to keep your speed up, because a slower unicycle is more likely to stop when it hits a rock (and in this case, you are quite likely to end up on your

hands and knees, as it will be a sudden stop!), and it is harder to speed up once you are in a rocky section. Speed adjustments (speeding up and slowing down) while riding over rocks, tend not to happen as smoothly as they do when you are riding over smooth ground. As such, it is difficult to get the correct lean for the speed adjustment. This will result in you rocking backward and forward to maintain balance with an irregular speed, which will more than likely result in an unplanned dismount (falling off).

Obviously, you are likely to experience more bouncing when riding over rocky sections than you experience when riding over bumpy track sections, so expect to be flailing more! It also helps to use one hand to hold on to the handle on the front of the unicycle seat, as this will help you to push down with your feet a little to keep them on the pedals (and to keep you on the unicycle!).

3.3 Handling Mud

Mud is weird, in that you will often find that the unicycle wants to move in ways that you don't want (or expect) it to!

Ride in to mud with the unicycle heading straight toward (or as close as you can safely get to) the point where you want to leave the mud. That way you will not need to attempt to turn in the mud (as turning in mud often doesn't work the way you expect it to!). Sit up reasonably straight, with just enough forward lean to be able to move forward at a slow (as a slower speed requires less forward lean) and steady pace. Too much forward or backward lean will put more horizontal force on the wheel (this will make more sense if you've learnt some basic physics at school) which is then more likely to unexpectedly slide forward/backward. This is also the reason why you don't want to be leaning sideways when entering mud!

Expect the unicycle to twist and/or slide as you are riding through mud, especially if the mud is on a slope. This will more than likely cause an unplanned dismount the first few times you experience it, as the behaviour of the unicycle is quite different to how it has behaved before. After you've experienced it a few times, however, you'll start to expect the unicycle to twist/slide and learn to handle it.

3.4 Handling Sand

You tend not to experience sand too often on mountain biking tracks. Probably the closest you'll get to sand is uncompacted dirt/dust which you sometimes find on mountain bike tracks. Sand is also annoying and riding through sand is pretty similar to riding through mud, except you will find that you need to push more in order to get the unicycle to move forward (as some of your effort ends up pushing some of the sand backwards, instead of helping to move you forward).

If you get a chance to try riding through sand, you should give it a go, as it is interesting. Be careful not to get sand in to the unicycle parts though, especially the moving parts like the hub, pedals/cranks, as sand is very corrosive when it rubs against moving parts!

3.5 Handling Drops

Drops on mountain bike tracks can vary from short very steep slopes, to vertical drops, and usually occur as a result of rocks and/or tree roots (or branches) on the track.

Drops can either be handled slowly, or not so slowly. Either way, it is a good idea to hold on to the handle on the front of the unicycle seat, and be prepared to flail with your free hand. If taking the slow approach, then you will need to lean back slightly as you take the drop.

3.6 Handling Berms

Berms are piled up dirt usually found on corners, and they allow corners to be taken at higher speed by riding up the berm and leaning inward. They are generally found more on faster downhill runs than on flat tracks. You are unlikely to find any on beginner tracks.

There are two ways to take berms, either slowly and sticking to the lower inside edge of the berm, or faster, riding up the berm (possibly with a lean), and using the slope of the berm to help you twist the unicycle back in to the corner.

4 The Workshops

The workshops will run over five weekly sessions and use the excellent mountain biking facilities out at Stromlo Forest Park (Canberra, Australia). More information on the park can be found at the park's website: <http://www.stromloforestpark.com.au/>

4.1 Session 1: Introduction to dirt

The purpose of this session is to introduce riders to riding on dirt tracks.

It will consist of approximately 500-600m of reasonably flat firetrail and will take riders from the carpark to the start of the 'Rascals' single track.

4.2 Session 2: Handling slopes

This session will use the first 200m or so of 'Rascals' to introduce riders to riding up and down slopes.

4.3 Session 3: Handling tree roots

This session will skip a short 70-100m section of rock and possibly mud (this will be used in session 4), and use a short 20-50m section of 'Rascals' to introduce riders to riding over small tree roots.

4.4 Session 4: Handling rocks and mud

This session will return to the 70-100m section of rock and possibly mud (which session 3 skipped), and introduce riders to riding over sections of small rocks (with the possibility of there being some mud).

4.5 Session 5: Handling ruts

This session will conclude the workshops and introduce riders to riding through, over, or around ruts.