



## Considerations When Fitting Individuals with Disabilities for Bikes

Thank you for assisting us to help numerous local individuals with disabilities purchase an appropriate bike to participate in your local iCan Bike camp. While we know you are experts in fitting and sizing customers on bikes we are going to share some very important differences in fitting a typical bike rider and fitting our riders with disabilities that will be attending camp.

**The biggest fitting difference is that we want our riders, when sitting on the bike seat, to be able to place both feet flat on the ground (including the heel) with little to no bend in the knee.**

We understand and appreciate that standard practice for people without disabilities is to ensure the balls of their feet (excluding the heel) are touching the ground. This distinction of having their heels touching the ground is important for a person with a disability because it:

- is the fit they will be accustomed to having from riding bikes at our week-long bike camp;
- gives them reassurance that they are able to put both feet on the ground to break a fall or stop, if warranted, providing them the confidence and sense of security we seek; and
- gives them more support and leverage when learning to start the bike independently.

Below are some basic ideas and bike characteristics we would like our riders to have in the bikes they purchase.

- Choose the largest bike that the rider can place both feet flat on the ground while sitting on the seat.
- Choose a low-slung and compact frame. Individuals with disabilities frequently have motor planning challenges. This is for ease in getting on and off the bike.

- The handlebars should be noticeably higher than the seat. This promotes an upright riding posture. For 24" and 26" bikes we recommend Cruiser style bikes.
- The pedal, at its highest point, should be no more than 75% the height of the tire. Although having pedal heights higher than 75% the height of the tire is appropriate for riding a bicycle while standing off the seat, as most people will do, individuals with disabilities rarely, if ever, pedal while standing. Pedals higher than this cause the rider's feet and knees to come up too high with each rotation. This results in the rider's weight shifting from side to side making it more difficult to maintain balance and uncomfortable to ride.
- Choose a single speed bike. Bikes with multiple gears or a freewheel can make the bike more complicated, distracting, and frustrating to ride for a person with a disability. Due to the nature of many disabilities, learning when and how to change gears often does not occur.

**NOTE:** This will likely be the parents first time purchasing a bike for the child that they never thought would ever ride a bike. This is a monumental time for them and may prompt them to purchase bikes and related accessories for other family members, including themselves, given this positive change in family dynamics and meaningful opportunity for more inclusive opportunities for their child.

- Ideally, choose a bike with **both** coaster brakes and hand brakes, but a handbrake is a must have. Our purpose for seeking a coaster brake is not for stopping but instead to ensure the rider does not pedal backwards. At our bike camps, we teach our participants to utilize the handbrake for stopping because it is easier for people with disabilities to differentiate the two motor skills of "feet make me go" and "hands make me stop".
- As you know, not all bikes will accept handbrakes and it may be a challenge to find 24" and 26" single speed cruiser bikes with handbrakes already installed. We advise parents to check with the bike shop to see if a handbrake can be installed on a bike if it does not come with one.
- 16" and 20" bikes should have a hand brake connected to the back wheel only. A front wheel hand brake can be dangerous and may cause the rider to fall over the handlebars if they were to panic and squeeze the front handbrake too hard. We disengage front wheel hand brakes at our camp.
- 24" and 26" cruiser bikes are safe with a hand brake to either or both tires due to the position of the style of the bike.

- Consider changing the seat to be smaller or narrower to help the rider's feet completely reach the ground. This will potentially provide the needed reach to allow the rider to fit on the larger bike with both feet flat on the ground.
- Considering removing seat post reflectors, also allows the seat to be positioned lower to help the rider's feet completely reach the ground.
- If the rider has no problems placing both feet flat on the ground, consider changing the seat to be wider and softer if the rider is uncomfortable, particularly for larger riders. If a rider is not comfortable on a bike they are less likely to enjoy riding.
- For riders that appear to be leaning forward, reaching for the handlebars, consider adding a stem riser which will provide a more comfortable and upright riding position, making it easier to balance.
- Avoid competition (BMX), freestyle and mountain bikes because:
  - they are difficult to ride and not suitable for learning
  - the frame is not low or compact so it is difficult for riders to get on and off
  - the length of the frame forces riders to lean forward to reach the handlebars. This can be a difficult position for riders
  - the pedal cranks are also too long, again making balance more difficult. Such designs are geared towards riding the bike while standing up rather than sitting on the seat, or riding in extreme environments.

Other Things to consider:

- Holding a few Bike Fit times at your shop
- Attending the parent orientation meeting iCan Shine holds with parents of riders the Sunday before camp begins
- Bringing a few recommended bikes (see below) to the Sunday orientation meeting and leaving such bikes with Shine staff to fit riders throughout the week
- Offering a discount to families attending the iCan Bike Camp

*(See Shine's list of 'Suggested Learning Bikes' on next page)*

## Suggested Learning Bikes

### 16" Tire (Current/New Bikes)

- Diamondback Mini Impression
- Fuji Rookie
- Giant Amplify
- Giant Animator
- Jamis Laser
- Jamis Miss Daisy
- Performance Sparrow
- Raleigh Jazzi
- Schwinn Lil Stardust
- Schwinn Gremlin
- Schwinn Twilight
- Specialized Hotrock Coaster
- Specialized Riprock Coaster
- Sun Flower Power
- Sun Matrix
- Torker Throttle
- Torker Wildflower
- Trek Precaliber

### 20" Tire (Current/New Bikes)

- Diamondback Impression
- Diamondback Miz Della Cruz
- Fuji Rookie
- Giant Motr
- Haro Shredder
- Jamis Laser
- Jamis Starlight
- Performance Downforce
- Performance Piper
- Schwinn Aerostar
- Schwinn Deelite
- Schwinn Stardust
- Specialized Hotrock Coaster
- Specialized Riprock Coaster
- Sun Flower Power
- Sun Lil Bolt
- Sun Matrix
- Torker Throttle
- Torker Wildflower

### 24" Tire (Current/New Bikes)

- Diamondback Impression
- Electra Cruiser 1
- Electra Cruiser Lux 1
- Fuji Sanibel
- Schwinn Corvette
- Schwinn Sprite
- Sun Boardwalk
- Sun Cruz Coaster
- Sun Revolutions
- Torker Boardwalk

### 26" Tire (Current/New Bikes)

- Del Sol Cantina
- Del Sol Shoreliner
- Diamondback Della Cruz
- Electra Townie Original 1
- Electra Cruiser 1
- Fuji Barnebey
- Fuji Cape May
- Giant Simple Single
- Jamis Earth Cruiser
- Jamis Hudson Easy
- Jamis Taxi
- Pure City Hamma Hamma
- Pure City Sydney
- Raleigh Gala
- Raleigh Special Step Thru
- Schwinn S1
- Schwinn Sivica
- Sun Boardwalk
- Sun Drifter
- Sun Revolutions
- Sun Streamway
- Torker Boardwalk