



# On-the-Bike Skills 201

Training Summary for NICA Level 2 Certification

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Photo credit: Motivation Sports

BUILDING STRONG BODY • MIND • CHARACTER  
THROUGH INTERSCHOLASTIC CYCLING



## Dedication

This manual is dedicated to NICA Coaches across the United States. Without you this program would not exist.  
Thank you for all you do to build strong mind, body and character in NICA student-athletes.

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# INTRODUCTION

This manual represents the second level of mountain bike skills instruction for NICA coaches of student-athletes. On-the-Bike Skills 101 provides insight to help coaches provide fundamental skills instruction, manage a practice, and lead team rides. On-the-Bike Skills 201 continues with progressive skill development and further resources for coaches to manage more advanced practice activities for growing teams.

## The key objectives for this training are:

- » Reinforce effective teaching methodology and skills instruction techniques;
- » Introduce progressive skills required by riders of varying age, maturation, ability level, and goals;
- » Provide the coach with practice activities to reinforce student-athlete skill development; and
- » Facilitate the creation and use of a progressive practice plan for student-athlete skills development and team activities.

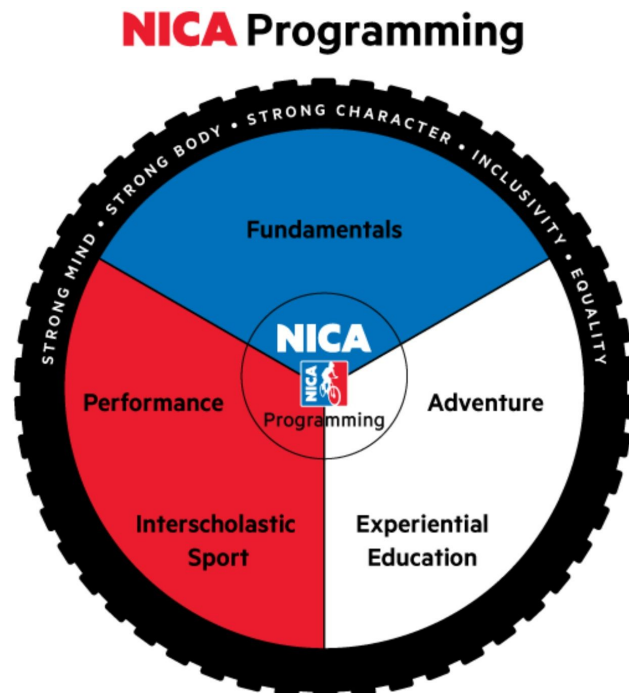
# SKILLS DEVELOPMENT FOR ALL

NICA programming was originally modeled to mimic other school sports. As part of this **interscholastic sport experience**, coaches conduct practices to develop skills, improve technique, increase awareness of strategy, and improve fitness to prepare student-athletes to compete against other teams. Although individual and team goals may be diverse, the greatest measure of success is **performance** or results on race-day.

Through feedback from NICA coaches in leagues throughout the country, we recognize that not all student-athletes are driven by competition. There is an increasing need for **outdoor experiential education** programs which purposefully engage students through unique experiences and direct reflection. Mountain biking (as opposed to other sports) provides opportunities to experience, understand and advocate for nature and the outdoors, to create an **adventure**, to learn to evaluate risk and reward, to improve physical fitness, and enjoy the elegant simplicity of riding a bike. The goals, interest, motivators, and measure of success are wildly unique.

While many students gravitate to competitive school teams, there are an equal number of students that do not thrive on competition. NICA has the unique opportunity to satisfy the needs of both groups, bridging the gap between performance and adventure. Coaches are challenged to recognize and provide youth development opportunities to both ends of this spectrum of interest.

This 201 manual is intended to satisfy the needs of all. Those most interested in **performance** will benefit with improved balance, trail awareness, and focus to navigate challenges encountered during a routine ride or race. Those more interested in **adventure** will find the skills herein to be fun and challenging, allowing them to ride with greater confidence and enjoyment. The blending of **performance** and **adventure** will allow teams to continue their impressive growth by attracting and retaining student-athletes with varying interests and expectations. Coaches will be provided the tools to satisfy these diverse interests. They too may find this to be a fun, challenging, and rewarding opportunity for personal growth. Welcome to the next level!





### **Racing Requires More Than Fitness**

Racing is an integral part of the NICA experience. Our student-athletes strive for their best result. Coaches create mock races during practice to simulate the physical demands of racing, helping athletes to form physiological adaptations that increase endurance, strength, and power, and encouraging the student-athlete to push through discomfort in order to reach higher levels of fitness, satisfaction, and accomplishment.

As student-athletes continue to develop and gain experience in races, coaches have an opportunity to improve race preparation. Topics to consider during the discussion include important items to bring to the race, feed timing as the race approaches, and techniques for reducing anxiety at the start line. Coaches should review possible race scenarios and prepare the racer with increased mental focus to perform well.

Although fitness, strategy, and tactics are at the forefront of preparation, consider the riding skills required to execute on race day. Contemplate the role of skills improvement in this development process. Even the strongest riders find themselves struggling on technically demanding race courses. A racer with greater skill will be more adept to handle more challenging terrain while conserving energy. Fast riders without appropriate skill are at greater risk of injury due to their higher speed. A NICA coach should strive to create a complete cyclist that has the focus, the fitness, and the skills required to race swiftly and safely.

### **Participation Beyond Competition**

Consider the student-athlete that comes to a team due to a friend's encouragement. The student-athlete is unfamiliar with racing but seeks companionship. Another new team member may own a bike and enjoy exploring their neighborhood and riding to school. The opportunity to ride on mountain bike trails and explore new areas is what brings them to the NICA team.

Utilizing fun and challenging activities during team events will allow student-athletes to progress in their own unique way. They may form greater bonds with teammates.

NICA races offer an obvious challenge and opportunity to achieve goals. However, some youth are driven by other interests, such as establishing and developing bonds, being part of a community of like-minded youth, and a desire for exploration, independence, and progression. With the goal of getting #morekidsonbikes, consider alternate methods to attract and retain new team members. The skills and activities found herein will benefit all types of riders, allowing teams to develop inclusive programming that fosters individual goals and interests.

# EFFECTIVE TEACHING

*A compelling teacher empowers students to achieve greater knowledge and understanding through effective delivery of learning opportunities.*

## Direct Instruction

Teachers often use direct instruction to introduce students to concepts or skills to be learned and then lead them through instructional activities designed to result in student learning. The teacher provides structured lessons, following a clear, sequential approach, with the teacher in control of the content, activities, and lesson pacing. NICA coaches can use this instructional method when introducing and teaching bike skills. The skill explanation and teaching points provide the content. The activity is initiated by the coach's demonstration and leads into student-athlete practice. The coach dictates the pace of the lesson by providing feedback to student-athletes as they practice the new skill.

Practical example:

Coach: "Hey everyone! As we begin today, I want to continue our conversation about cornering. Who remembers the three teaching points from last week's practice? Yes! That's correct! *Low Ready Position*, *look* where you want to go, and *lean* the bike in that direction. That is great! I want to introduce two more things we can do to improve our cornering. We turn our hips to face the direction that we want to go. Additionally, we can move our hips away from our leaning bike to remain balanced. That is called Counterbalance. Watch me as I do it and then we will practice!"

## Progressive Learning

Progressive education is a teaching theory concentrating on learning by doing – hands-on projects, and experiential learning. Once direct instruction has provided a basic understanding, the use of progressive steps or challenges allow for a deeper grasp and comprehension. NICA coaches can introduce progressive learning opportunities into skill development. As direct instruction provides the early stages of skill development, progressions in the form of small incremental challenges can be introduced to stimulate further development and reward.

Practical example:

Coach: "Everyone is showing huge improvement in their cornering. Let's make things a little more challenging by cornering on a slight descent. Next, we will link multiple turns together. If I notice continued improvement, we will slowly increase the speed. Then, we will be ready to head to the trail and use our new skills to have more fun."

## Group Learning Activities

Learning in groups, provides a cooperative and collaborative environment that is very conducive to character development. In small groups, students can share strengths and also develop their weaker skills. They develop their interpersonal skills. They learn to deal with conflict. When groups are guided by clear objectives, students engage in numerous activities that stimulate greater development.

Group learning activities provide a place where learners actively participate, all contributions are valued, respect is given to every member, students are invested in their own learning, and learners sometimes teach. Through the use of group activities, NICA coaches can strengthen the core values of equality, inclusivity, while building strong bodies, strong minds, and strong character.

Our greatest and most commonly used group learning activity is a group trail ride. Do not overlook the incredible learning opportunities provided by this common activity. During a group ride, student-athletes are exploring nature, navigating changing terrain, observing coach and peer behavior, assessing risk and reward as they make continuous decisions on the bike.

There are times when a trail ride is not possible or practical. Trail conditions, time constraints, trail difficulty, and student-athlete ability level may dictate an alternative solution. Consider the use of group activities to provide opportunity for further learning while maintaining a safe and fun environment for our student-athletes.

Practical example:

Coach: "Hey everyone! Coach Beth has just returned from a pre-ride trail inspection and discovered that the trails are still too wet after yesterday's rain. We need to avoid doing damage to the trails. We are going to divide into groups of six and do a cornering relay race. I created two parallel slalom courses with cones. Watch Coach Beth and I ride the course and return to the start. Then, we will start a relay and see which group can finish first. The first group to finish gets to move onto another challenge I'm about to set up. Let's go!"

## Bringing It Together

Consider the integrated use of all three teaching methods. Direct instruction may not entertain all student-athletes. Coaches should expect to move through the direct instruction quickly and concisely. Get students moving as soon as you have explained the concepts and demonstrated a skill.

Although adults often want to provide thorough explanation and convincing examples, consider your audience. Adolescents often prefer experiential learning. Get them moving in order to keep their attention. Continue your instruction through verbal feedback as they practice skills.

Progressions can be introduced during the direct instruction. Seamlessly transition from skill practice to progression by adding small variations or challenges. Progressions also provide an opportunity to manage riders with widely varying skill level. Offer a progression to a portion of the group that is ready while allowing others to learn at their own pace.

The group learning activity can have numerous purposes. It allows for further student-athlete skill development. It can be used to occupy time as you wait for parents to arrive at the end of practice. Incorporating regular group activities and games may appeal to some student-athletes more than others. A way to keep things creative, fun, and interactive. You will find that student-athletes learn to anticipate the group play and find it rewarding and enjoyable.

These group activities also provide an opportunity for coaches to do a more thorough student-athlete evaluation. Not sure if everyone involved in practice is ready to take it to the trail? Have everyone do a group activity and give yourself the opportunity to assess their skills in relation to the trail and each student's impulse control.

## Learning Styles

There are a variety of learning styles and everyone has their own mix of styles which help them learn best. As instructors, we should be aware of the ways people learn including visual, verbal, and physical (kinesthetic), or by reading and writing. An easy way to appeal to the various learning styles is by using the "tell it, show it, do it, review it" method.

### » Tell It (verbal/auditory learning)

Direct Instruction (lecture) - Simply providing the information to the participant(s). Deliver the material in a clear, concise, and systematic fashion. Direct Instruction is not always the best approach for teaching youth and advanced riders. They often prefer a less structured teaching style and can learn more from an interactive approach.

Keywords - Brief phrases or words that directly associate with the bike and body movements. Sometimes a mantra or catchy phrase can be used to help with memorization. Participants will only remember 3-5 things at a time. Utilizing keywords when teaching a skills is important.

Guided Discovery - Inquiry-Based Instruction. The participants are not provided an exact answer but rather the resources to find the answer themselves. Guided Discovery is a form of interactive learning and consists of getting your participants to think and get involved in solving problems.

### » Show It (visual learning)

Static Demo - A skill demonstration executed without riding; by standing to the side of the bike, or without a bike at all. This allows the participant to see key or individual movements one at a time allowing them to mimic the instructor and begin to develop muscle memory.

Moving or Rolling Demo - A skill demonstration executed with riding the bike. It is recommended that the instructor reduces any talking while performing a moving demo. Allow the visual learner to focus on what they see without distraction. Instead, say nothing or only repeat the key words.

### » Do It (kinesthetic learning)

Students practice the skill to develop muscle memory through repetition. This practice can be done while riding although instructors can also add stationary holds to reduce variables and allow for a more thorough understanding of the skill.

### » Review It

Review to reinforce learning through direct instruction and guided discovery. Providing handouts for student-athlete's use and later review can also be helpful as well as allowing time for participants to ask questions and discuss in a group setting.

*Coach stops mid-ride to check on student-athletes, incorporating learning styles, skills instruction and good ride leading.*





# SKILLS INSTRUCTION

## Method for Presenting Each Skill

- » **Name the skill to be instructed**  
Simply announce what you plan to teach and ensure you have the participant's attention.
- » **Describe when, where, and why the skills is used**  
Give the participants an understanding of why the skill is important.
- » **Provide Teaching Points (Tell It)**  
Provide clear and concise key words to allow participants to understand and focus on how the skill is performed. Example: Low, Look, Lean. Use a static demonstration or mimic what you are saying while off the bike to provide additional clarity. Your body language should match your spoken words.
- » **Demonstration (Show It)**  
Provide a moving demonstration of the skill being performed. Show the participants what it looks like and model the behavior you would like to see. Travel through your cones or practice area as you expect others to do.
- » **Practice and Progression (Do It)**  
Allow participants to practice the skill. The coach uses observation, error detection, and correction to assist riders as they attempt the skill. Position yourself with a clear view of those performing the skill and others returning to try again. Keep everyone in front of you. Provide feedback and encouragement as required. Show adequate attention to each rider. As riders show proficiency, offer small progressions to promote continued learning.
- » **Wrap-up (Review It)**  
Prompt the group for any remaining questions. Ask them what they felt while attempting the skill. Ask the group to repeat the teaching point to ensure they are learning. Highlight improvements that you witnessed.

## Observation/Error Detection and Correction

It is impossible to observe a rider performing a skill and see everything at once. Develop a system for observation that works well for you. With a system, you are more likely to observe common errors and make simple corrections. Familiarize yourself with all key movements and common errors for each skill.

Begin your observation by getting an overall picture of the student-athlete performing the whole skill. This will give you an indication of their initial skill level and ability. Allow the student-athletes to perform a few attempts so they have a chance to progress on their own and you have a chance to observe them. During these initial attempts, it is important to provide encouragement. Limit the constructive criticism to reminders of errors that you have previously addressed.

There are numerous methods for providing corrections. As a coach, your individual style and experience will determine which of the following approaches you use. Before giving any feedback to the student-athlete, decide which approach is best.

- » Silently observe the error and give correction. You silently determine the error, find a correction, and then give direction. A quick tip or reminder is all that may be required to better perform the skill. Throughout this correction, the actual error is not verbalized. This approach works well for errors related to the teaching points and very common errors. It is expected that feedback could be provided to the student-athlete as they ride by you during repeated attempts.
- » Explain the error and give the correction. As with the previous method, determine the error silently. Then, find an appropriate way to describe the error observed and give a correction. Be sure the student-athlete is prepared to hear what they are doing wrong. Some may be sensitive to criticism, especially in front of their peers. This approach can be time-consuming. Don't allow yourself to get bogged down with one person as the rest of the group is waiting.
- » When you are unable to identify the error. Don't let your ego get in the way. Be honest. Say you need to see repeated attempts and concentrate on your observation. If time allows, this could become beneficial to both parties. Tell the student-athlete what they are doing correctly to empower them to continue as you both work towards a resolution of the error.

## Static Holds

The term **static** means lack of movement. Coaches can do static holds by holding a rider stationary on their bike. This allows the rider to focus specifically on what is to be done during the skill without distraction of movement, other riders, environment, or uneasy balance. Static holds are often used to help riders that may be struggling with basic movements or maintaining a balanced position during a skill. Conversely, a static hold could be used to provide a clear demonstration in front of participants. The coach can point out specific things for viewers to be aware of.

Static holds should be done with consideration for the participant. Whenever possible, the coach shall hold the stem or front of the bike and stand off to the side. This allows the rider to mimic a proper riding position, focus their eyes ahead as if they are riding, and listen to the coach for direction. See Appendix C for an explanation and photo of suggested static holds.

## Ten Fundamental Elements

### » Neutral & Ready Position

These dynamic standing body positions are critical to maintaining balance and control over varied or challenging terrain.

### » Bike / Body Separation

Bike / Body separation allows the bike to move as the terrain dictates while the rider remains balanced and in control.

### » Pedal Position

Level pedals, when not pedaling, allows the rider to stay balanced on both feet. Pedal position is also involved when a rider is poised with the pedal in a power position during the approach to a challenge. The foot should be positioned on each pedal properly: on the ball of foot for clipless pedals or slightly forward for flat pedals. Lastly, the rider can properly manage balance and control by rotating the feet on the pedals with ankle deflection: heel(s) down when braking and heel(s) up while climbing or performing lifting skills.

### » Eye Movement

The rider's head should be up at all times with eyes scanning ahead. Scan further ahead as rider's speed increases. The rider should commit with the eyes to the chosen riding line. Also, look through corners and changes in direction. The bike follows the eyes.

### » Braking

Braking is used to control speed and come to a stop. Brakes and brake levers need to be set up and functioning properly for effective use. Braking cannot be overstated as it provides confidence and safety as a rider progresses.

### » Steering

Steering is the turning of the front wheel. When used in conjunction with Bike / Body Separation, the rider is able to maintain balance and stability while changing directions. At slow speeds, a lot of steering is used to change the direction of the bike. At high speeds, leaning the bike is used to change direction while little or no steering may be involved.

### » Speed

Many skills require the rider to be moving at an appropriate speed. Riders moving at speeds below their comfort level have difficulty with balance and stability. Riders moving at speeds above their comfort level are often out of control and risk harm to themselves or other trail users.

### » Gearing & Cadence

Gear selection must be appropriate for terrain, the skill, and the rider's speed. For skills requiring pedal strokes, gear and speed are critical to success. A rider's cadence is the revolutions per minute of the cranks. For efficiency on flat terrain, a rider uses a relatively high cadence. When climbing, the rider uses a slower cadence, which allows them to surge their speed and use momentum gained to ride over technical portions of a climb.

### » Timing & Coordination

Small errors in timing and coordination can have disastrous consequences. Timing errors are easier to correct with repeated practice. Coordination errors are more difficult and time consuming to correct. However, you should never progress a skill when there are errors in timing and coordination.

### » Pressure Control

Pressure Control is used for maximizing or minimizing traction on either tire. With small movements, riders can change the pressure from back to front to find a good balanced position on the bike. Pressure control is used at least subtly in most skills. Sometimes, pressure control is the key to success but often overlooked.

### 3 Key Essentials

These essentials are common to all skills. Therefore, make mention of them before beginning the first skill or provide a reminder before resuming instruction. They can then be stressed during observation and correction of rider skills practice.

- » Head up, eyes scanning ahead
- » Finger on each brake lever at all times
- » Level pedals, evenly weighted

## ON-THE-BIKE 101 SKILL PROGRESSIONS

### READY POSITION PROGRESSION - Wedging

As mentioned in On-the-Bike Skills 101, the Ready Position is a balanced standing position used to prepare for challenges, impacts and as a set-up and follow-through for many skills. This position has a dynamic range of motion during terrain changes and skills performed.

The rider can use opposing force through the hands and feet to aid in stability over changing terrain or while performing maneuvers. This is commonly referred to as Wedging.

The first type of wedge is the Feet Wedge. With the heel of the front foot down and the toe of the rear foot down, the rider can push forward and back through the feet to manage the forces encountered while riding. The Feet Wedge is especially important while braking to offset the forces as the bike slows. Also, to add stability when the bike is bouncing through technical terrain such as rocks and roots.

The second type of wedge is the Body Wedge. That will be covered in the 301 manual.



**Site Selection:** Smooth, flat terrain. Use cones to provide a basic runway and turn-around point.

**Teaching Points:**

- » Ready Position.
- » Use opposing forces through feet.

**Demonstrations:**

- » Static: Side view standing next to bike. Body language should match the explanation.
- » Moving: Side view. Speed is slow jogging pace.
- » Approach in a Ready Position. Show ankle deflection to demonstrate the Feet Wedge.



## BRAKING PROGRESSION - Pressure Control

As mentioned above, Pressure Control is used for maximizing or minimizing traction on either tire. When having to slow or stop suddenly, the rider can use downward Pressure Control to push the tires into the ground. The resulting increase in traction will allow the rider to decelerate more quickly without skidding.



**Site Selection:** Smooth, flat terrain. Use cones to provide a basic runway and turn-around point.

### Teaching Points:

- » Tall Ready Position.
- » Lower weight through feet while pulling each brake lever appropriately.

### Demonstrations:

- » Static: Side view standing next to bike.
- » Moving: Side view. Speed is fast jogging pace.
- » From moderate speed, come to a controlled stop while providing clear use of heel drop and bracing leg. Demonstrate how weight shifts down and back to counteract the forces of braking.

### Progressions:

- » Coming to a complete stop at a certain point.
- » Come to complete stop, pause, and ride away without putting foot down.
- » Use rear brake only, front brake only, then both again.

### Group Learning Activities:

- » Stopping distance challenge.
- » Skidding contest.
- » Cardboard slide.

## BRAKING PROGRESSION - Descending Dismount

Who doesn't like to go down hills on a bike? Proper descending involves two previously mentioned skills; Bike / Body Separation and Braking. When riding down sloped terrain, the rider should move their body back in order to maintain balance on their feet. Proper braking is used to control or reduce speed. There may come an instance where stopping on a descent is required. The terrain may become too difficult or there is an obstacle ahead. When forced to stop, the Descending Dismount is used to come to a controlled stop and put a foot down.



**Site Selection:** Mild to moderate downsloping terrain.

### Teaching Points:

- » Look.
- » Lock.
- » Lean.
- » Land, stepping back.

### Demonstrations:

- » Have riders stand below you on the descent and/or to one side.
- » If available, perform dismount across a slope to demonstrate importance of landing on the uphill side of bicycle.

### Progressions:

- » Vary the steepness.
- » Vary the surface type.
- » Traverse slope and land on uphill side.
- » Instruct riders to land on a specific spot (stable rock or cone on the ground).

### Group Learning Activities:

- » Slow race on descent.
- » Starting on a descent.

## CLIMBING PROGRESSION - Climbing Dismount

The Climbing Dismount is a slow-speed skill used when a rider is forced to stop while climbing. This is an important safety concern as the inability to stop safely on a climb could lead to a loss of balance and the rider rolling or falling backwards. Although climbing instruction is crucial, equal emphasis should be given to a safe and controlled stop on a climb.

When stopping on a climb is required, the rider should look to the side they want to step down on. Choose the uphill side when climbing across a slope. Apply and lock the brakes as the bike comes to a stop. Lean the bike to the side where foot will be put down. Land by stepping well away and forward so that hips end up in front of the saddle.

**Site Selection:** Smooth, varied inclined terrain.

### Teaching Points:

- » Look.
- » Lock.
- » Lean.
- » Land, stepping forward.

### Demonstrations:

- » Have riders stand above you on the climb and/or to one side.
- » If available, perform dismount across a slope to demonstrate importance of landing on the uphill side of bicycle.

### Progressions:

- » Vary the steepness.
- » Vary the surface type.
- » Traverse slope and land on uphill side.
- » Instruct riders to land on a specific spot (stable rock or cone on the ground).

### Group Learning Activities:

- » Hill climb challenge.
- » Starting on a climb.





## CLIMBING PROGRESSION - Climbing Restart

Being forced to start while climbing does not mean that you have to walk the rest of the way. Stopping on a climb may be due to another rider ahead blocking the path, an incorrect gear choice, or a technical feature. If a climbing dismount is performed correctly, restarting on the climb may be possible.

**Site Selection:** Smooth, varied inclined terrain.

### Teaching Points:

- » Lock.
- » Lean.
- » Pedal in power position.
- » Push off with foot on the ground.
- » Release brakes.

### Demonstrations:

- » Have riders stand above you on the climb and/or to one side.

### Progressions:

- » Vary the steepness.
- » Vary the gear selection.
- » Vary the surface type.

### Group Learning Activities:

- » Race starts on a moderate climb.



# CORNERING PROGRESSION - Counterbalance and Rotation

On-the-Bike Skills 101 offered the introduction to Cornering. A Low Ready Position, bike lean, and looking in the direction of the turn were the first teaching points. Here, we will expand with additional points to allow the rider to turn more quickly or at higher speed.

As riders progress, they will use more Bike / Body separation to lean the bike. To maintain stability, the rider uses counterbalance by moving the shoulders and hips in the opposite direction as the bike lean.

Additionally, the rider can twist by pointing the knee, hips, and shoulders in the intended direction of the turn. The counterbalance and twist are integral elements in developing more advanced cornering technique.

As the bike leans and the rider counterbalances, the rider can explore crank rotation in order to maintain level pedals. This crank rotation will allow the rider to maintain balance on both feet through the corner. At no time should the rider prematurely drop one foot while cornering. Although this may feel stable on easy terrain, dropping the outside foot is equivalent to standing on one foot which makes it harder to maintain balance. It also limits Bike / Body Separation which is critical to the skill.



**Site Selection:** Smooth, flat terrain or gentle downgrade. Use cones to create a right-angle turn or widely spaced slalom course.

### Teaching Points:

- » Low, Lean, Look.
- » Counterbalance by moving hips and shoulders to the outside of corner.
- » Twist by turning knee, hips and shoulder in intended direction.
- » Explore foot movement through crank rotation as lean increases.

### Demonstrations:

- » Static: Standing stationary without bike, show a combination of all teaching points as you look through an imaginary turn.
- » Moving: Front view. Speed is jogging pace.
- » Have participants near the end of a right-angle turn and face you. Coast through turn, demonstrating teaching points. Hold the bike in a leaning position as you travel through the arc of turn.

### Progressions:

- » Change direction of turn.
- » Add sloped terrain.
- » Vary radius of turn.
- » Link multiple turns together.

### Group Learning Activities:

- » Slalom races.

# ON-THE-BIKE 201 SKILLS

## RATCHETING

Ratcheting is a type of pedaling. Rather than pedaling in full circles, the rider pedals forcefully through only a portion of the pedal stroke and then backpedals. Ratcheting is invaluable during slow speed riding to continue forward movement while maintaining balance and stability. Ratcheting is also used to avoid hitting pedals on obstacles.

**Site Selection:** Flat terrain, grass or dirt. Progressing to a slight incline.

### Teaching Points:

- » Tall Ready Position.
- » Weighting in the hands.
- » Partial back pedal and power pedal forward.
- » Repeat.

### Demonstrations:

- » Static: Lift rear wheel and show pedal movement during Ratcheting.
- » Moving: Side view. Speed is walking pace.

### Progressions:

- » Vary gear choice and speed.
- » Add incline.
- » While riding next to a small step or curb, use ratcheting to avoid hitting the pedal. Then, switch sides.

### Group Learning Activities:

- » Slow race.





# TRACKSTAND

The term trackstand originated from velodrome track racing as a tactical move where one rider comes to a stop in order to force his or her opponent to take the lead before a finishing sprint. The skill has evolved to become a fun challenge to see how long a rider can balance while stationary. Mountain bikers use this skill to pause on the trail behind another rider or when evaluating a challenge ahead. NICA student-athletes often enjoy demonstrating this skill during pauses in the action at practices and rides.

**Site Selection:** Flat or slightly upward sloping terrain, grass or dirt.

**Teaching Points:**

- » Tall and forward.
- » Shoulder match the handlebars.
- » Slight Bike / Body Separation.
- » Pressure front pedal.

**Demonstrations:**

- » Moving: Roll into a slight incline and perform a Trackstand.
- » Demonstrate the Trackstand so participants have a side view and are able to move around to see key bike and body movements from all angles.

**Progressions:**

- » Switch direction of handlebar rotation.
- » Switch the forward foot.
- » Change angle of incline.

**Group Learning Activities:**

- » Slow race.
- » Timed trackstand competition.



## SMALL CIRCLES

Small Circles exercises are invaluable for slow speed balance and stability on the bike when the front wheel is being steered. Many intermediate riders struggle while negotiating switchback turns, especially those built on steep slopes. Practicing Small Circles allows the rider to work on tight turns without concern for the timing and or duration of the turn. This allows the rider to master the elements of the skill before facing the challenge on the trail. Once Small Circles have been mastered, the rider has the bike and body movements required for switchback turns.

**Site Selection:** Flat terrain, grass or dirt. Create a 12-foot diameter circle of cones.

**Teaching Points:**

- » Tall Ready Position.
- » Weighting in the hands.
- » Focus through turn.
- » Steer.

**Demonstrations:**

- » Moving: Ride around the perimeter of a circle.

**Group Learning Activities:**

- » Any involving slow speed turns.





# SWITCHBACKS

Once riders have developed the bike and body movements for Small Circles, they are ready to progress to Switchbacks. The next step is to show the best riding line through a switchback turn. For example, approach the turn on the outside, turn towards the middle of the turn while allowing room for the rear wheel to clear, finishing on the outside at the end of the switchback turn. Then, provide progressions on increasingly inclined terrain.

**Site Selection:** Flat terrain, grass or dirt. Use cones to link tight turns together. Progressing to a slight incline.

**Teaching Points:**

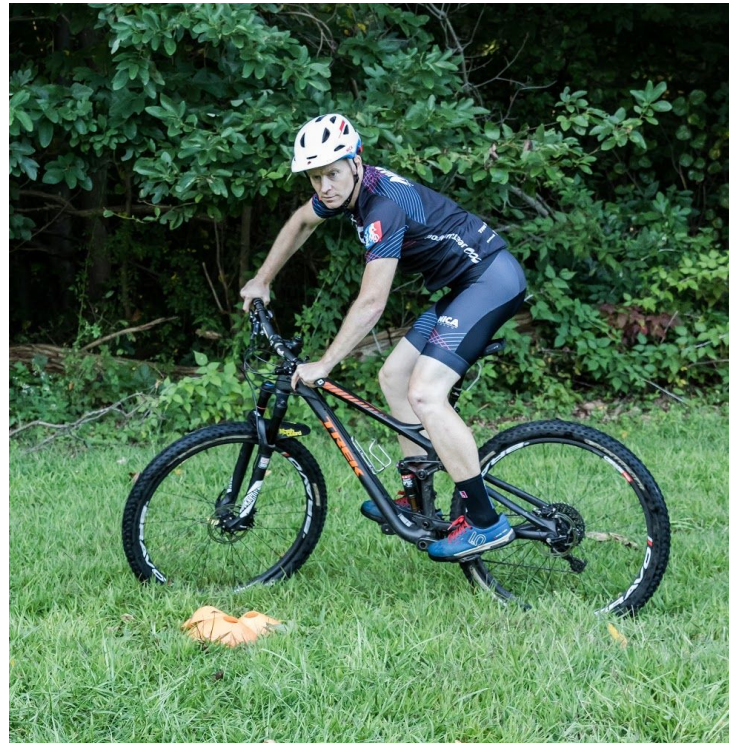
- » Line choice.
- » Focus through the turn.
- » Bike / Body separation as needed.
- » Steer on uphill, lean bike on downhill.

**Demonstrations:**

- » Moving: Side view. Speed is walking pace.

**Group Learning Activities:**

- » Switchback turns up and down inclined grass or dirt.



## ROCK DODGE

The Rock Dodge is a very sharp, short turn used to avoid hitting wheels on an object on the trail. The front wheel is passed on one side of the object, then turned sharply so the rear wheel passes on the other side of the object. This skill is most often used when negotiating switchback turns with rocks in the trail.

The Bike / Body separation movements are identical to those used for Small Circles. Difficulty is increased as riders must learn to predict the path of the rear wheel.

**Site Selection:** Flat terrain, grass or dirt. Progressing to a slight incline.

**Teaching Points:**

- » Tall Ready Position.
- » Steer around obstacle.
- » Rear wheel awareness.

**Demonstrations:**

- » Static: Walk bike around and over an obstacle to slowly show the path of each wheel.
- » Moving: Side view. Speed is walking pace.

**Group Learning Activities:**

- » Rock Dodge Cone Challenge.



## BASIC FRONT WHEEL LIFT

The Basic Front Wheel Lift is the easiest of the wheel lifts to master. It can be used to go up onto or over small logs or other obstacles when the bike has sufficient momentum for the rear wheel to roll over without the need for a pedal stroke. This skill is useful when speed is slow to moderate and the terrain is flat or slightly downhill.

**Site Selection:** Flat terrain, grass or dirt.

**Teaching Points:**

- » Load.
- » Explode.
- » Pull.
- » Soften Knees.

**Demonstrations:**

- » Static: While standing next to bike, demonstrate just the load and explode using handlebars.
- » Moving: Side view. Speed is walking pace.

**Group Learning Activities:**

- » Lifts over obstacles.





## BASIC REAR WHEEL LIFT

The Basic Rear Wheel Lift is used to unweight or lift the rear wheel to get over small obstacles.

Unweighting vs. Lifting

When unweighting, the rear wheel maintains contact with the obstacle with less of the rider's weight on the rear wheel. Conversely, during a rear wheel lift, the rear wheel does not touch the obstacle. The difference is important, as it is often desirable to maintain contact with the obstacle. Doing so may give the rider better control and feel of the surface the rear wheel is riding over. Unweighting also conserves energy when lifting is not required.

**Site Selection:** Flat terrain, grass or dirt.

### Teaching Points:

- » Load.
- » Explode.
- » Claw with pedals.

### Demonstrations:

- » Static: While standing next to bike, demonstrate a rear wheel lift using the Body Wedge and claw.
- » Moving: Side view. Speed is walking pace.

### Group Learning Activities:

- » Lifts over obstacles.



## Appendix A



# ON-THE-BIKE SKILLS 201

## Trainer Field Notes

### Method for Presenting Each Skill

- Name the skill
- Explain where, when, why it is used
- Explain teaching points with static demonstration
- Provide a moving demonstration
- Prompt for questions
- Have students practice and provide feedback to them
- Prompt for remaining questions
- Offer progressions if appropriate

### 3 Key Essentials

- Level Pedals (Athletic Stance)
- Finger on each brake lever
- Head up, eyes scanning ahead

### Ten Fundamental Elements

- Neutral and Ready Position
- Bike / Body Separation
- Pedal Position
- Eye Movement
- Braking
- Steering
- Speed
- Gear and Cadence
- Timing and Coordination
- Pressure Control

Skill	Teaching Points	Progressions & Activities
<b>Ready Position Progression - Feet Wedge</b>	<p><b>Where:</b> Challenging Terrain</p> <p><b>Teaching Points:</b></p> <ul style="list-style-type: none"> <li>• Deep bend in elbows and knees (Athletic Stance)</li> <li>• Heavy Feet, Light Hands</li> <li>• Elbows out</li> <li>• Heel of front foot down</li> <li>• Toes of rear foot down</li> <li>• Push forward &amp; back through feet</li> </ul> <p><b>Demonstration:</b> Walking/Jogging speed, Side view</p>	



Skill	Teaching Points	Progressions & Activities
<p><b>Braking Progression - Pressure Control</b></p>	<p><b>Where:</b> To reduce stopping distance without skidding</p> <p><b>Teaching Points:</b></p> <ul style="list-style-type: none"> <li>● Apply brakes</li> <li>● Bracing leg with heel(s) down</li> <li>● Drop hips down and back as required</li> </ul> <p><b>Demonstration:</b> Static - While standing next to bike, show hips dropping down and back Rolling - At increased speed, come to a quick stop while moving down and back</p>	<p><b>Progressions:</b></p> <ul style="list-style-type: none"> <li>● Full Stop without skidding</li> <li>● Full stop, pause, and ride away without putting a foot down</li> <li>● Stop at a designated spot</li> <li>● Add speed</li> <li>● Add small downhill stop</li> </ul> <p><b>Activities:</b></p> <ul style="list-style-type: none"> <li>● Minimum stopping distance challenge</li> <li>● Skid contest</li> </ul>
<p><b>Cornering Progression - Counterbalance &amp; Rotation</b></p>	<p><b>Where:</b> Moderate to high-speed cornering</p> <p><b>Teaching Points:</b></p> <ul style="list-style-type: none"> <li>● Low</li> <li>● Look</li> <li>● Lean</li> <li>● <b>Counterbalance</b></li> <li>● <b>Rotation</b></li> </ul> <p><b>Demonstration:</b> Static - Standing in Ready Position without bike, turn hips to face direction of turn and shift hips away from turn to maintain balance. Rolling - Turn towards students exaggerating</p>	<p><b>Progressions:</b></p> <ul style="list-style-type: none"> <li>● One 90 degree turn</li> <li>● Change direction</li> <li>● 180 degree turn</li> <li>● Add to slight descent</li> <li>● Link turns together</li> </ul> <p><b>Activities:</b></p> <ul style="list-style-type: none"> <li>● Slalom course</li> <li>● Grass track races</li> </ul>
<p><b>Climbing Dismount</b></p>	<p><b>Where:</b> Whenever stopping is required while climbing</p> <p><b>Teaching Points:</b></p> <ul style="list-style-type: none"> <li>● Look</li> <li>● Lock</li> <li>● Lean</li> <li>● Land with foot, stepping forward</li> </ul> <p><b>Demonstration:</b> Static - Stand over bike and show the forward position expected. Rolling - perform dismount on a shallow incline <b>Static Hold:</b> After rider has stopped, try to lift front wheel</p>	<p><b>Progressions:</b></p> <ul style="list-style-type: none"> <li>● Steeper slope</li> <li>● Traverse slope and focus on which side to put foot down</li> <li>● Designate point to put foot down with cone or large rock</li> <li>● Restart on the climb</li> </ul> <p><b>Activities:</b></p> <ul style="list-style-type: none"> <li>● Simon says, “Stop!”</li> </ul>

Skill	Teaching Points	Progressions & Activities
<p><b>Climbing Restart</b></p>	<p><b>Where:</b> To restart on a climb after stopping</p> <p><b>Teaching Points:</b></p> <ul style="list-style-type: none"> <li>● Lock</li> <li>● Lean</li> <li>● Pedal in power position</li> <li>● Push with foot on ground</li> <li>● Release brakes</li> </ul> <p><b>Demonstration:</b> Rolling - Perform the Climbing Restart on a slight incline</p>	<p><b>Progressions:</b></p> <ul style="list-style-type: none"> <li>● Increase incline</li> <li>● Retry with varying gear choice</li> </ul> <p><b>Activities:</b></p> <ul style="list-style-type: none"> <li>● Restart race</li> </ul>
<p><b>Descending Dismount</b></p>	<p><b>Where:</b> When forced to dismount while descending</p> <p><b>Teaching Points:</b></p> <ul style="list-style-type: none"> <li>● Look</li> <li>● Lock</li> <li>● Lean</li> <li>● Land with foot, stepping back</li> </ul> <p><b>Demonstration:</b> Static - Stand over bike &amp; show the rearward position expected. Rolling - perform dismount on a shallow incline</p>	<p><b>Progressions:</b></p> <ul style="list-style-type: none"> <li>● Steeper slope</li> <li>● Traverse slope and focus on which side to put foot down</li> <li>● Designate point to put foot down with cone or large rock</li> <li>● Restart on the descent</li> </ul> <p><b>Activities:</b></p> <ul style="list-style-type: none"> <li>● Simon says, "Stop!"</li> </ul>
<p><b>Ratcheting</b></p>	<p><b>Where:</b> When challenging terrain requires good balance</p> <p><b>Teaching Points:</b></p> <ul style="list-style-type: none"> <li>● Tall Ready Position</li> <li>● Weighted hands</li> <li>● Partial backpedal, power forward</li> <li>● Repeat</li> </ul> <p><b>Demonstration:</b> Static - Show pedal movement from 1 o'clock to 4 o'clock &amp; back Rolling - Side view, slow walking pace</p>	<p><b>Progressions:</b></p> <ul style="list-style-type: none"> <li>● Vary speed</li> <li>● Vary gear selection</li> <li>● Add incline &amp; descent</li> </ul> <p><b>Activities:</b></p> <ul style="list-style-type: none"> <li>● Slow Race</li> </ul>

Skill	Teaching Points	Progressions & Activities
<p><b>Trackstand</b></p>	<p><b>Where:</b> When stalled on the trail</p> <p><b>Teaching Points:</b></p> <ul style="list-style-type: none"> <li>● Tall &amp; forward</li> <li>● Shoulders match handlebars</li> <li>● Slight bike/body separation</li> <li>● Pressure front pedal</li> </ul> <p><b>Demonstration:</b> Static - Stand next to bike showing handlebar &amp; pedal position Rolling - Side view on sloped terrain</p>	<p><b>Progressions:</b></p> <ul style="list-style-type: none"> <li>● Switch feet</li> <li>● Switch turning direction</li> <li>● Vary incline</li> </ul> <p><b>Activities:</b></p> <ul style="list-style-type: none"> <li>● Timed Trackstand contest</li> <li>● Slow Race</li> </ul>
<p><b>Small Circles</b></p>	<p><b>Where:</b> Negotiating tight turns &amp; switchbacks</p> <p><b>Teaching Points:</b></p> <ul style="list-style-type: none"> <li>● Tall Ready Position</li> <li>● Weighted Hands</li> <li>● Focus through turn</li> <li>● Steer</li> </ul> <p><b>Demonstration:</b> Static - Use cones to create a 12' diameter circle Rolling - Slow walking pace in circle</p>	<p><b>Progressions:</b></p> <ul style="list-style-type: none"> <li>● Change direction</li> <li>● Change forward foot</li> <li>● Perform seated &amp; standing</li> </ul> <p><b>Activities:</b></p> <ul style="list-style-type: none"> <li>● Switchbacks</li> <li>● Foot down game</li> </ul>
<p><b>Switchbacks</b></p>	<p><b>Where:</b> Tight turns used to traverse steep climbs and descents</p> <p><b>Teaching Points:</b></p> <ul style="list-style-type: none"> <li>● Line Choice</li> <li>● Focus through turn</li> <li>● Bike/Body Separation as needed</li> </ul> <p><b>Demonstration:</b> Rolling - Create a zig-zag pattern with cones, progress to slight incline and descent</p>	<p><b>Progressions:</b></p> <ul style="list-style-type: none"> <li>● Change diameter of turns</li> <li>● Add incline and decline</li> <li>● Increase the number of turns &amp; difficulty</li> </ul> <p><b>Activities:</b></p> <ul style="list-style-type: none"> <li>● Short course involving switchbacks up and down a moderate slope.</li> </ul>

Skill	Teaching Points	Progressions & Activities
<p><b>Rock Dodge</b></p>	<p><b>Where:</b> To avoid hitting small obstacles on the trail with either tire</p> <p><b>Teaching Points:</b></p> <ul style="list-style-type: none"> <li>● Tall Ready Position</li> <li>● Steer around obstacle</li> <li>● Rear wheel awareness</li> </ul> <p><b>Demonstration:</b> Rolling - Turn around cone or obstacle and have it pass between tires</p>	<p><b>Progressions:</b></p> <ul style="list-style-type: none"> <li>● Increase the size of obstacle</li> <li>● Increase frequency of obstacles</li> <li>● Add slight incline or descent</li> <li>● Add during switchbacks</li> </ul> <p><b>Activities:</b></p> <ul style="list-style-type: none"> <li>● Rock Dodge Challenge</li> </ul>
<p><b>Basic Front Wheel Lift</b></p>	<p><b>Where:</b> Raised obstacles on the trail approached at slow speed</p> <p><b>Teaching Points:</b></p> <ul style="list-style-type: none"> <li>● Load</li> <li>● Explode</li> <li>● Pull</li> <li>● Soften knees</li> </ul> <p><b>Demonstration:</b> Static - Stand next to bike and show the load, explode, pull Rolling - Side view, walking pace</p> <p><b>Static Hold:</b> Hold bike at stem and fork leg as rider practices</p>	<p><b>Progressions:</b></p> <ul style="list-style-type: none"> <li>● Perform lift at a specific point</li> <li>● Add small object</li> <li>● Add multiple objects</li> <li>● Increase size of object(s)</li> </ul>
<p><b>Basic Rear Wheel Lift</b></p>	<p><b>Where:</b> To unweight or lift rear wheel over obstacles</p> <p><b>Teaching Points:</b></p> <ul style="list-style-type: none"> <li>● Load</li> <li>● Explode</li> <li>● Claw</li> </ul> <p><b>Demonstration:</b> Static - Standing next to bike, claw on pedal to lift rear wheel. Also, without bike, jump and claw feet. Rolling - Side view, walking pace</p>	<p><b>Progressions:</b></p> <ul style="list-style-type: none"> <li>● Perform lift at a specific point</li> <li>● Combine with Basic Front Wheel Lift</li> </ul>

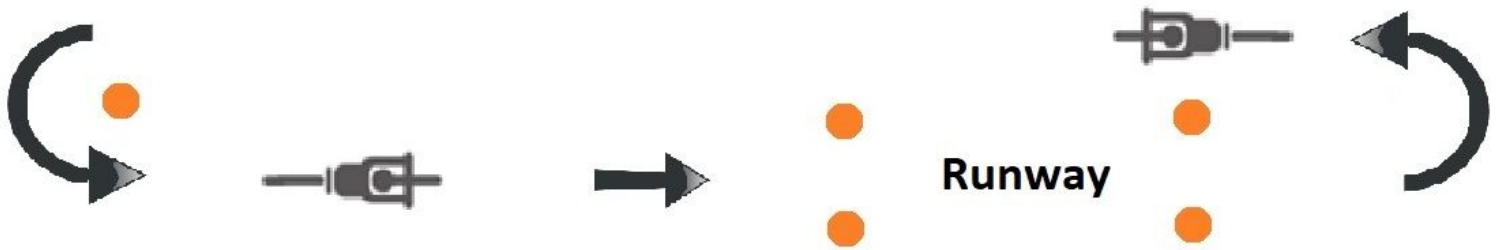
## Appendix B

# NICA

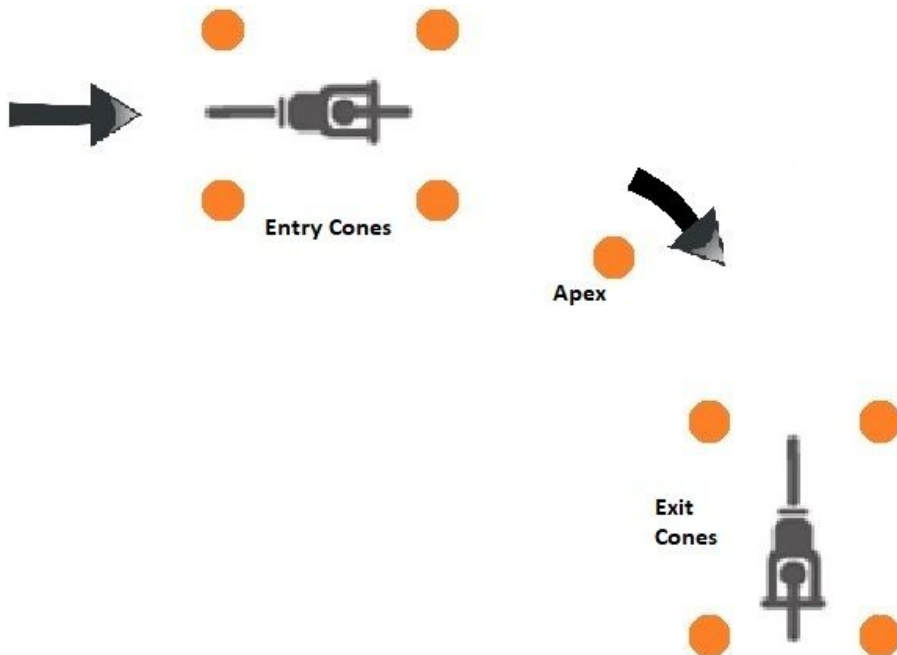
## Common Cone Layouts

### Ready Position and Braking Progressions

### Ratcheting, Front Wheel Lift, and Rear Wheel Lift

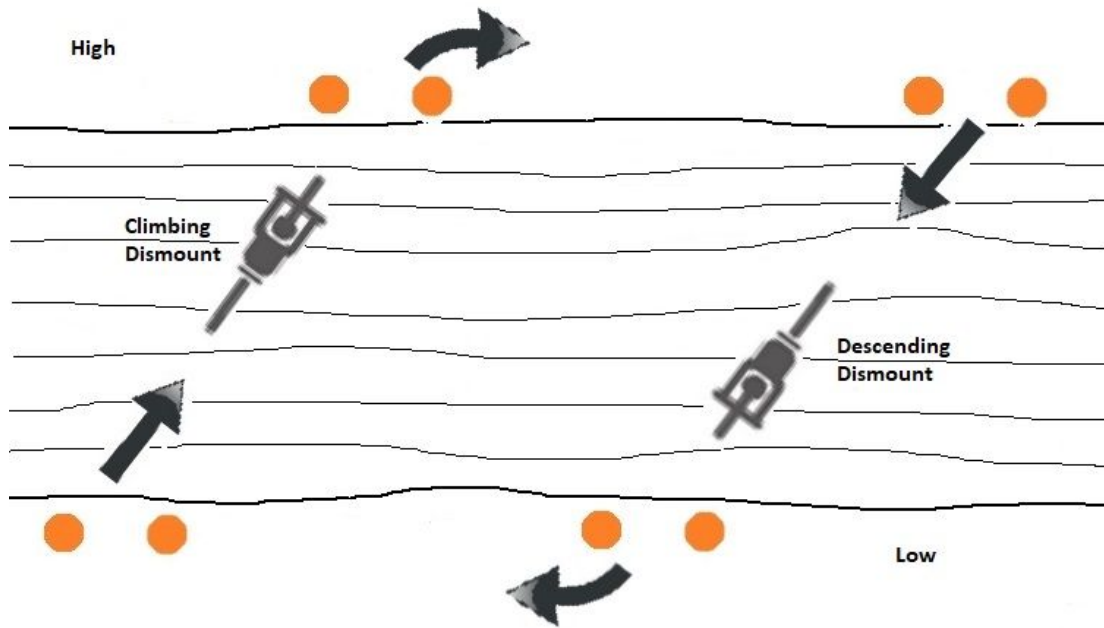


### Cornering Progressions

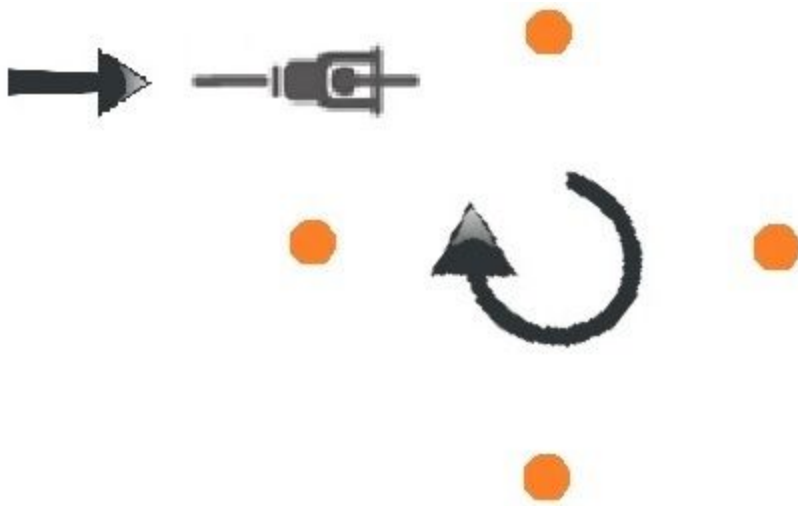




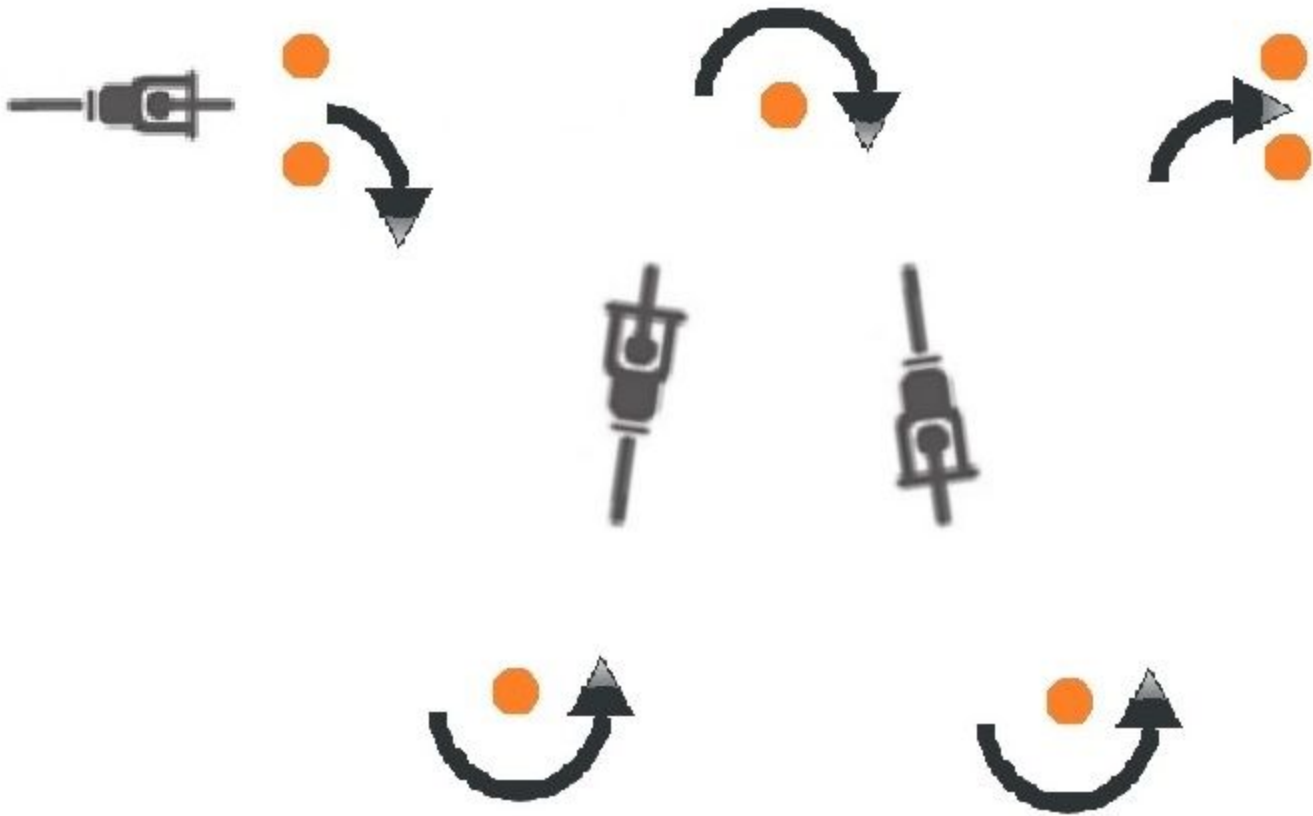
### Climbing and Descending Dismounts



### Small Circles



**Switchbacks**



**Rock Dodge**



## Appendix C

# NICA

## Static Holds

### Neutral and Ready Position

The coach stands to one side of the front wheel and holds the bike by the stem with one hand and the other palm against the end of the handlebar. Allow the rider to feel heavy feet and light hands while transitioning from the Neutral Position to the Ready Position.



### Bike / Body Separation Side to Side

The coach stands to one side of the front wheel and holds the bike by the stem with one hand and the other palm against the outside of the handlebar. With rider in the Ready Position, lean the bike from side to side. Remind rider to remain centered while hinging at elbows to allow the bike to move freely.

### Bike / Body Separation Forward

Place front wheel of bike on bench or riser to simulate climbing. The coach utilizes a wide stance on one side of the bike and place pedal closest to them at 6 o'clock position for the rider to step onto. Place one hand on the fork arch and front tire. Use forearm on front tire for extra stability. Other hand goes near the stem. Rider mounts the bike on the same side as the coach is standing. Ask rider to lighten grip on handlebars to find balance in their feet.





### **Bike / Body Separation Back**

Place rear wheel of bike on bench or riser to simulate descending. Coach utilizes a wide stance with one foot in front of the front tire. One hand on stem with other palm against the end of the handlebar. Place pedal closest to the coach in the 6 o'clock position. Rider stands on the riser on the same side of the bike as the coach. Place one foot on pedal. Then, hands to handlebars and swing leg over the back of the bike. Ask rider to lighten grip on handlebars to find balance in their feet.



## Appendix D

# NICA

## Group Learning Activities

### FIELD GAMES

Field games are activities played in an open field environment such as a soccer field. Be sure to seek permission from property managers before riding on playing surfaces. Bicycle tires may damage grass playing surfaces.

#### **Bike Soccer**

A relatively straight-forward game of soccer...while riding bicycles. Designate a rectangular playing area with cones. Size varies depending on the number of players. Also create a goal at each end with cones.

All players must be riding with feet off the ground in order to kick the ball. If a player puts a foot down near the ball, he/she must freeze and allow another player to kick the ball or ride away without kicking the ball. The bike can be used to block or redirect the ball. No hands allowed! No goalie or goaltending.

The game begins with players lined up along their goal line and a coach throwing the ball into the middle of the field. Use a ball similar to a thick beach ball or traditional school playground kickball. Soccer balls are too heavy. Beach balls will get punctured quickly by chainrings.

Variations:

No out of bounds. Players can follow the ball and continue play. Goals can only be scored when ball goes into the *front* of the goal.

Penalty for kicking the ball while the other foot is on the ground. Player would then be required to ride to the nearest sideline before returning to play.

#### **Bike Tag**

“Tag! You’re It! Designate a playing area and the first rider to be “It”. That rider chases others and tags them with a hand.

Variations

Sharks and Minnows. One shark is “It” as the game begins. As riders are tagged, they become sharks and chase the remaining riders, Minnows, until all riders have been tagged.

Freeze tag. Riders are divided into two teams. When a rider tags the helmet of another the player of the opposing team, the tagged rider must freeze and stay in place. Games ends when all riders on one team are frozen.

#### **Bike Tire Toss**

Similar to ring toss or horseshoes. Place two stakes in the ground using rebar or Step-In stakes similar to a game of horseshoes. Designate a perimeter circle around the stake that riders can’t cross. Players are given a spare tire to throw onto the stake. Points given for getting the tire around the stake. Steel beaded tires are preferred because they hold their round shape.

Variations:

Offer more points for a further throw.

#### **Foot Down**

If you put a foot down, you are out! Make a square or other shape using cones or climbing rope. Size varies depending on the number of riders. The games begins with riders moving in any direction. Riders must remain within the boundary without putting a foot down. Riders can block riders or force them out of bounds. The last rider on their bike wins.

Variations:

Allow mild contact between riders while keeping hands and feet on the bike.

Decrease the size of the playing area as riders are subtracted.



## **B-I-K-E**

A combination of Follow the Leader and H-O-R-S-E basketball shootout. The idea of the game is to match riding challenges.

Divide into groups of 2 or more riders. The first rider announces a riding challenge. Examples are riding over a log, up a steep incline, across a skinny feature, under a tree branch, etc. If the first rider succeeds in the challenge, all other riders are obligated to do the same. Those who do not succeed in the challenge are given the first letter B. If the first rider does not succeed, the next rider can attempt the challenge or choose another. Each time a rider does not succeed, they are given a letter. When you can spell B-I-K-E, you are out.

### **“None Shall Pass”**

A game of close proximity and passing. Have riders follow one another in a circle. As they are riding closely behind each other, announce the start of the game. Riders attempt to pass the rider(s) ahead of them to eliminate them. If you get passed, you are out. The circle gets smaller and smaller until only two remain. See if the final pass can be made.

Variations:

Designate which side the passing should be done. For example, pass on the outside or inside of the circle.

Create a short course with turns in multiple directions. If you are passed, you are out. Try having faster riders start at the back of the line.

Limit the number of laps to increase urgency.

## **Cardboard Slide**

It's a skidding contest without damaging the ground or bike tires. Lay a large square of cardboard in the grass. Have each rider approach with speed and use their rear brake as they roll over the cardboard. See how far they can slide with their rear tire on the cardboard. Try it on a slight downslope to allow for more distance. Mark the longest distance and see who wins.

## **Ultimate Bike**

In the spirit of Ultimate Frisbee but on bikes. Create a rectangular playing field with end zones. A small ball or foot sac is used. Play is initiated by the defense throwing to the offense. Player cannot pedal when they have possession of the ball. They must coast or come to a stop and pass the ball to another player. Passes can be intercepted or knocked down. In either case, possession changes to the other team. When a pass is completed to a teammate in the opposing end zone, a point is awarded.

## **Bike Limbo**

It's the Limbo...on bikes. Have two coaches hold a portion of rope or other object between them. Riders ride down a runway towards the coaches and attempt to go under the object. Height remains the same for all participants. Those that successfully go under can move onto the next round. After all have attempted, lower the height of the object and the next round begins. How low they can go!?!?

# **MOCK RACES AND RELAYS**

The NICA Short-Course is the basic mock race for student-athletes to use their skills in a competitive or challenging race-like environment.

## **Short Course Relay**

Use your typical NICA short-course creation and turn it into a relay race. Divide the group into five teams and have the first rider of each team line up at the start line. As each racer finishes, the next racer on that team begins. The first team to finish wins.

## **Slalom Course**

Use cones to create race gates similar to Slalom Skiing. A mildly descending grassy slope works perfectly. Set up two or more courses side by side to create a Dual Slalom race. Run elimination heats until you have only two riders left.

Variations:

Designate an easy or hard gear to be used by riders.

Do the races uphill too.

## **Slow Race**

Form lanes for each 'racer' using cones. The rules of the game include staying in your lane, moving forward, and not putting a foot down. The last person to finish wins. Ready, Set, Slow!!!

### **Twinning**

Have riders form pairs, or buddies. Designate some way that buddies must team up to compete. For example, riding with one hand on each other's back, holding hands, arms crossed, one rider pulling the other, etc. Form lanes and have pairs race one another.

## **GRASS TRACK RACES**

Many races common to the velodrome can be done on flat grassy areas with mountain bikes. The space and equipment required is minimal. Use cones to designate the inside edge of the grass track. Indicate a start/finish line with additional cones. Use your creativity to introduce variations: a standard oval track, triangular, or four-corner track. If available consider including small challenges to the track such as sloping terrain, drainage swales, small logs, water hazard, etc. Grass track races are also very exciting for spectators. Watch as parents, family members, and the random passerby begin to pay attention as you add grass track races to your practice. It is far more than riding in circles. When spectators realize that, it can become great fun to watch. Try this at an after-school practice and you will notice that it attracts attention. Maybe it will even get #morekidsonbikes.

### **Time Trial**

Time each rider for a designated number of laps. One rider at a time.

### **Match Sprint**

A race contested by only two riders. First across the line wins. Use elimination heats to determine a winner. Or have the winner of each race stay on until they lose. That will tire them out!

### **Chariot Race**

A group of racers contesting a short race. Racers are held at the start so they can immediately accelerate away from the start line. First across the finish line wins.

### **Scratch Race**

Similar to the Chariot but racers start with a foot down.

### **Points Race**

Racers score points for periodic sprints at regular intervals throughout the race. Also score points for lapping the field. These can be longer than average races while keeping the interest of racers as they try to score points. Top three of each sprint are scored 3-2-1 points. 10 points for lapping the field. Bring a clipboard and be ready to write down the points or each racer.

### **Snowball**

Another form of points race in which increasing numbers of points are awarded as the race wears on. Formats vary, but a 10-lap snowball might award points on every second lap to the first rider only, with points available as follows: 2, 4, 6, 8, 10.

### **Miss-And-Out**

The miss-and-out is distinctive to velodrome racing. As its name suggests, is a race at the rear of the field to avoid being the last rider across the line. The race continues with one rider being eliminated at regular intervals depending on track length. When just three riders remain, the format changes to a scratch race and the first across the line wins.

### **Win-And-Out**

The win-and-out is an unusual format, and there are many variations. The idea is to award the victory to a single rider on the basis of a sprint – and then that rider leaves the race. The rest of the riders – whether they were last in the sprint or got second place by half a tire – are left to duke it out for second place in the next sprint. A common variation is when lower finish places are awarded first. Fifth place is awarded to the winner of the first sprint, then fourth, then third and so on.

### **Keirin**

At the velodrome, a Keirin race uses a motorbike to pace the racers up to speed and then the race is started. We can use a NICA coach to pace the racers around the grass track and then announce the start as he/she moves out of the way. Let the racers battle for one or two more laps around your grass track.

## OFF THE BIKE GAMES

Coaches often notice that student-athletes tend to bond with their peers based on ability and fitness on the bike. Use NON-bike games to break that trend and build a stronger team culture. These NON-bike games and activities become icebreakers and team bonding opportunities. Watch as the student-athletes work together and interact with those that may not gravitate to naturally.

### **The Human Knot**

Huddle up, and put your left hand into the center. Grab hold of another person's hand. Then, put in your other hand and grab the hand of another person. Don't let go. Slowly move away from the center and attempt to untangle yourselves until you form one big circle.

### **The Smallest Island**

Teams of ten stand on a sheet or tarp. Get off and fold it and stand on it again. Get off, fold it and stand on it again. Then, again. How small can you make the island and still fit the entire team?

### **Cross the Lava Relay**

Supply each team with five items on one side of a lava river. Everyone needs to reach the other side of the lava river using the items. Be creative with items and distance from start to finish.

### **Crazy Relay**

Provide props, activities, and/or costumes that the team needs to relay to the next member.

### **Birthday Lineup**

Line up along a log or line in a parking lot. They need to stay on the object/line and get in order of their birthdays WITHOUT using their voices.

### **Fill the Bucket**

Divide into small teams. Provide a full bucket of water and an empty one...and a vessel for transporting water...but the vessel has holes in it. Work together to fill the bucket before the other team.

### **Trust Me**

Small teams are assigned colors. Scatter items of varied colors around a field or trail. 1 member is blindfolded while others instruct him/her to find the objects.

### **Hula Hoop Race**

Form two lines and link hands. Race to get the Hula Hoop from one end of the line to the other without breaking your hands or falling over.

## Appendix E



# Skills Improvement Practice Plan

This Skills Improvement Plan provides a structure for incorporating skill instruction into a regular NICA practice format. Consider teaching one or two skills before moving on to other activities at each practice. When doing this just twice each week, it is possible to instruct all of the NICA 101, 201, & 301 skills within 10 weeks. Starting with the most basic skills and progressing each week.

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Week 1	<ul style="list-style-type: none"> <li>• Neutral &amp; Ready Position</li> <li>• Braking</li> </ul>		<ul style="list-style-type: none"> <li>• Bike / Body Separation - Side to Side</li> </ul>		Weekend ride involving skills learned during the week	
Week 2	<ul style="list-style-type: none"> <li>• Bike / Body Separation - Forward &amp; Back</li> </ul>		<ul style="list-style-type: none"> <li>• Intro to Cornering</li> </ul>		Weekend ride involving skills learned during the week	
Week 3	<ul style="list-style-type: none"> <li>• Shifting</li> <li>• Climbing</li> </ul>		<ul style="list-style-type: none"> <li>• Climbing Dismount</li> <li>• Descending Dismount</li> </ul>		Weekend ride involving skills learned during the week	
Week 4	<ul style="list-style-type: none"> <li>• Race Starts</li> </ul>		<ul style="list-style-type: none"> <li>• Ratcheting</li> <li>• Trackstands</li> </ul>		Weekend ride involving skills learned during the week	
Week 5	<ul style="list-style-type: none"> <li>• Basic Front Wheel Lift</li> <li>• Basic Rear Wheel lift</li> </ul>		<ul style="list-style-type: none"> <li>• Front to Rear Wheel Lift</li> </ul>		Weekend ride involving skills learned during the week	
Week 6	<ul style="list-style-type: none"> <li>• Small Circles</li> <li>• Rock Dodge</li> <li>• Switchbacks</li> </ul>		<ul style="list-style-type: none"> <li>• Cornering w/ Counterbalance &amp; Rotation</li> </ul>		Weekend ride involving skills learned during the week	
Week 7	<ul style="list-style-type: none"> <li>• Pedaling Front Wheel Lift</li> </ul>		<ul style="list-style-type: none"> <li>• Pressure Control</li> <li>• Level Lift</li> </ul>		Weekend ride involving skills learned during the week	
Week 8	<ul style="list-style-type: none"> <li>• Pumping</li> </ul>		<ul style="list-style-type: none"> <li>• Advanced cornering</li> </ul>		Weekend ride involving skills learned during the week	
Week 9	<ul style="list-style-type: none"> <li>• Level Lift to the side</li> </ul>		<ul style="list-style-type: none"> <li>• Rear Wheel lift to the Side</li> </ul>		Weekend ride involving skills learned during the week	
Week 10	<ul style="list-style-type: none"> <li>• Rolling Dismount</li> </ul>		<ul style="list-style-type: none"> <li>• Rolling Remount</li> </ul>		Weekend ride involving skills learned during the week	

