On-the-Bike 101 MANUAL

Summary for NICA's
On-the-Bike skills training for coaches

NICA

SPRING 2023

BUILDING STRONG MINDS, BODIES, CHARACTER, & COMMUNITIES THROUGH 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 minds, bodies, character, and communities.

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PART ONE:

Effective Coaching

INTRODUCTION

NICA training ensures that licensed coaches working with NICA student-athletes receive the resources and support they require to attend to the physical, social, and emotional needs specific to adolescents participating in quality interscholastic cycling programs. The NICA On-the-Bike skills training provides an overview of essential knowledge for coaches working with NICA youth so they can deliver an exceptional youth development experience through mountain biking. The training includes the On-the-Bike skills online course, On-the-Bike skills in-person clinic, and this manual.

the **KEY OBJECTIVES** for this NICA On-the-Bike skills manual are:

- *To synthesize the information from the On-the-Bike 101 skills online course and in-person clinic*
- *To serve as a reference document for coaches to return to regularly to plan their season and practice sessions*

This manual begins by introducing the gear, philosophy, and preparation needed for NICA coaches to create excellent skills education for student-athletes. It then reviews the 101 mountain bike skills sequentially in the order in which they are taught to student-athletes during a typical NICA season. Additional resources and educational materials are available through NICA's coach education department.

A COACH'S SKILLS JOURNEY IS NEVER COMPLETE

It is essential that coaches continually work toward proficiency in coaching and skills instruction. After all, student-athletes are working hard toward growth and development, both on and off the bike. Coaches can lead by example in the pursuit of their own skills improvement.

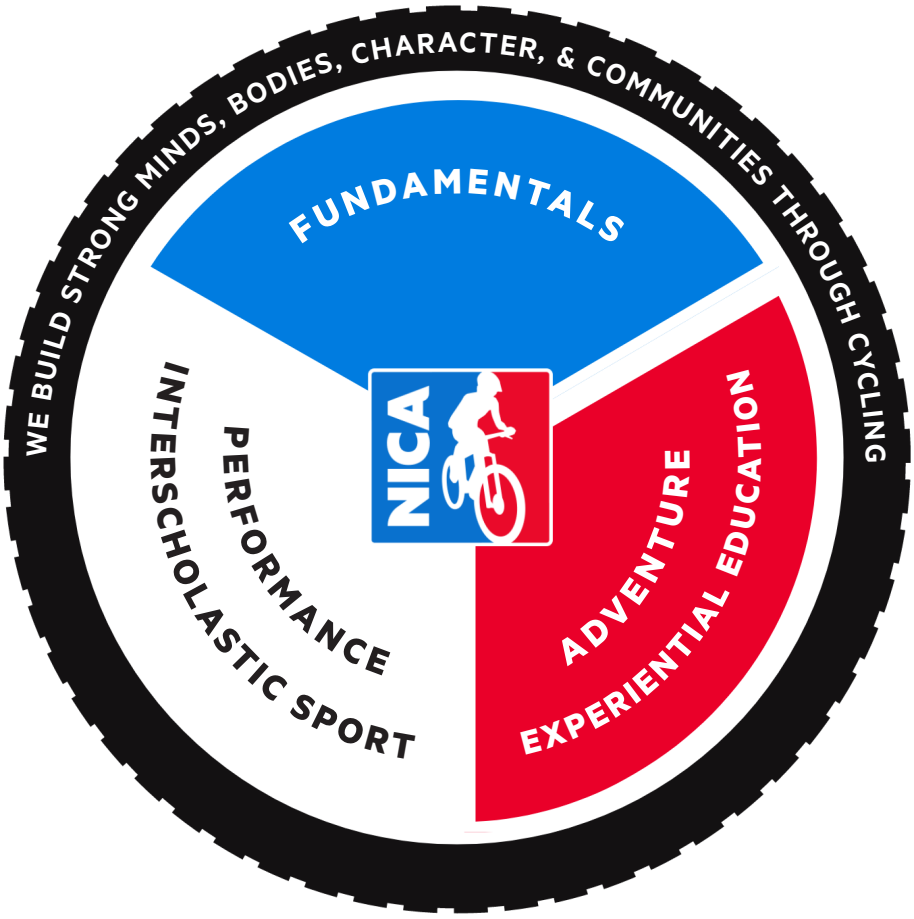
NICA On-the-Bike skills training is a coach training. It is intended to both demonstrate the essential mountain bike skills that student-athletes need, as well as how to effectively teach them in a youth development setting. Its primary function is not to teach coaches themselves to be better riders; the primary outcome is for coaches to gain a full understanding of how to deliver impactful, competent skills instruction.

By helping our coaches to be better foundational skills instructors, our ultimate aim is to enable student-athletes to:

- Improve bike handling skills over varying terrain
- Maintain flow and speed on the bike
- Navigate challenging terrain smoothly and efficiently
- Build confidence for riding and racing
- Maximize performance in all NICA programming

PROGRAMMING FOR ALL

Coaches and student-athletes come to NICA teams with widely varying interests. Coaches are challenged to set aside their individual interests and experiences in order to develop a team culture of inclusivity for all student-athletes. Focusing primarily on performance, competition, or results may alienate team members or discourage continued participation. Conversely, a team culture focused primarily on experiential education or adventure may stifle an individual's need to recognize personal growth, progression, and achievement. Great coaches use a variety of activities to facilitate team growth and long-term athlete development so every athlete can meet their goals.



LEAD BY EXAMPLE

Coaches lead by example to define and develop their team's culture. Respect for fellow coaches, team members, family members, and all aspects of NICA programming is not optional. Additionally, coaches should be aware of our shared responsibility within our larger community of outdoor enthusiasts. Mountain biking in most areas is a privilege. Once you become a NICA coach, you are a role model and the eyes of the community will see you as a role model. Coaches must understand that they are constantly being watched by athletes and community members on and off the bike and in the community.

RIDE WITH RESPECT

Adolescents often learn through observation. As a coach, all eyes are on you. Model appropriate and respectful behavior and expect that of your team members. Develop a team culture that creates a positive presence within the community.

The following are examples of how coaches can model respect to student-athletes:

Respect the trail and nature by making team members aware of the work that goes into building trails. Show respect by riding in a way that doesn't damage the trail by skidding. Avoid riding when trails are wet or susceptible to damage. Leave no trace!

Respect for coaches and volunteers is nurtured through positive behavior while interacting with fellow coaches. We are volunteers. Display respect and appreciation for those that contribute while encouraging others showing interest to become more involved.

Respect gear and equipment by performing necessary routine maintenance to keep it working properly. Help others to understand and do the same. Maintained equipment will last longer, allowing it to be passed to another rider. Bikes are made to last and should.

Respect oneself and others and progress together to create a more rewarding, meaningful, and shared experience. Encourage self-respect by encouraging student-athletes to take care of themselves and perform at their best. Respect the effort exhibited. The bike is not a measure of the rider.

Respect the experiential learning process by recognizing and encouraging spontaneous opportunities for learning. Coaches must help student-athletes learn from and embrace moments of challenge and frustration. Experiential learning occurs when carefully chosen challenges are supported by reflection. Make time and ask an open ended question that guides learning.

Coaches set the tone through their words, actions, and modeling. A coaches' influence is never neutral!
PHOTO CREDIT: Montana Interscholastic Cycling League, Bozeman Youth Cycling

THE GEAR

Coaches need to lead by example and this means being properly equipped and dressed to handle all of the reasonable situations they may encounter during a team practice. Having functioning and appropriate equipment to address the most commonly encountered situations is essential in order to be a high-functioning NICA coach.

THE ESSENTIALS

Coaches need to carry all of the following gear during NICA activities. These are *non-negotiable items* for coaches. NICA student-athletes are expected to always ride with the first five items (in **bold**) below.

- **Mountain bike with functioning gears and brakes**
- **Properly-fitted helmet**
- **Youth-development appropriate shirt or jersey and riding shorts/pants**
- **Shoes that completely cover the toes and heels**
- **Water bottle or hydration pack**
- Backpack or hip bag
- First aid kit (for Level 2 or 3 coaches)
- Gloves

Coaches should carry adequate tools, gear, nutrition, first aid, and communication device(s) in each ride group. Carrying proper gear is not only a part of our risk management as coaches: it also provides consistent role-modeling for our student-athletes. The backpack/hip bag is important for making sure a coach can carry all they need to respond to an incident while working with student-athletes.

ADDITIONAL EQUIPMENT

Supplemental equipment for coaches (or student-athletes):

- Glasses
- Sunscreen
- Layers to accommodate weather variations
- Ride nutrition
- Bike support (multi-tool, pump, tube(s), assorted small bolts, derailleur cable, chain lube)
- Bug spray

THE BIKE

A safe and reliable mountain bike is required for both coaches and student-athletes. A well-functioning bike reduces the potential for serious injury and makes the ride more enjoyable.

THE ESSENTIALS

Non-negotiable elements of a safe, reliable bike:

- Mountain bike with appropriate gears and knobby tires
- Functional front and rear brakes
- Handlebar end caps/plugs, no added bar end grips

ELEMENTS OF A BASIC BIKE FIT

Bike fit is equally important for both ride safety and enjoyment. Coaches should understand and assess their student-athletes for the basics of a good bike fit, including saddle height and cockpit set up.

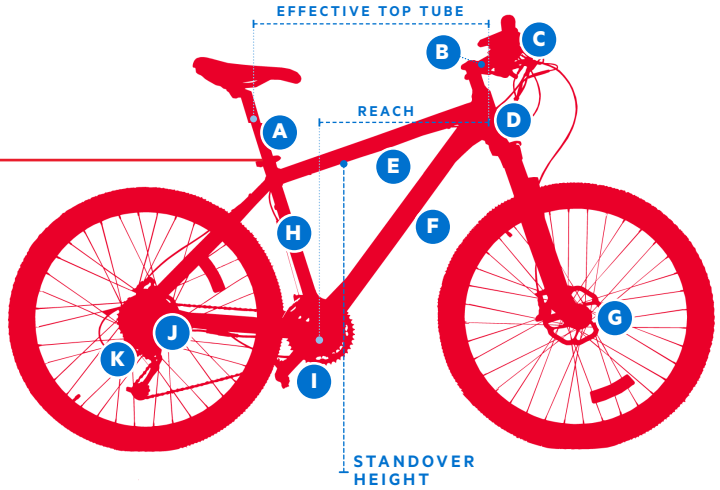
- Saddle height and fore/aft
- Handlebar width, reach, and drop
- Position of controls such as brake levers and shifters

PRO-TIP

Knowing basic bike parts (and how they affect overall bike fit) is important. You can help your athletes learn the proper names of each part of the bike, and ***empower them to take ownership*** *over the care and maintenance of their bicycle and gear.*

PARTS OF A BIKE

- **A** SEAT POST
- **B** STEM
- **C** HANDLEBAR
- **D** HEAD TUBE
- **E** TOP TUBE
- **F** DOWN TUBE
- **G** BRAKE ROTOR
- **H** SEAT TUBE
- **I** CRANKSET
- **J** CASSETTE
- **K** DERAILLUER



ABCDE BIKE SAFETY CHECK

A bike safety check must be done before all practice and events.

The factors indicating whether or not someone is going to need mechanical assistance are numerous and coaches would be hard pressed to do it all, all of the time. If a student-athlete's bike does not pass a bike safety check they may have to miss a practice in order to get the bike repaired. Coaches are not responsible for fixing and maintaining student-athletes' bikes; you are not expected to be a team mechanic. Help athletes and families build relationships with local bike shops to repair and maintain their bikes.

the **ABCDE** bike safety check:

Air
Tire air pressure should always be adjusted to respond to the terrain, which may vary with weather and location.

Brakes
Brakes are working properly, the bolts are tight, and the levers are positioned correctly.

Chain
Chain is clean and lubricated.

Drivetrain
Cassette, chainring(s), and cranks are inspected to ensure they are tight in place and that there are no broken teeth or damaged chain links. Make sure the chain shifts smoothly throughout the gears.

Everything else
Check quick-release levers, thru axles, and any other bolts.

Teaching independent bike-readiness has many benefits for student-athletes, and increases their mechanical aptitude, personal responsibility, and efficiency.
PHOTO CREDIT: Aaron Puttcamp, Pennsylvania Interscholastic Cycling League

ABCDE STRATEGIES

- Teach the student-athletes how to do the inspections during pre-season activities
- Manage and oversee the process
- Host bike maintenance training throughout the season with student-athletes and coaches

PRACTICE PREPARATION

Establishing routines for practices creates good safety habits and allows more time to be spent actually riding and engaging in skills development.

SITE CONSIDERATIONS

Before the season begins, coaches should evaluate and become familiar with practice venues, taking into consideration site amenities (such as restroom availability) and any features that present elevated risk. Head coaches create emergency action plans and make them available to all Level 1, 2, and 3 coaches. Always check to ensure that your team has permission to practice at each venue. NICA coaches should work to create positive and proactive relationships with local land managers and trail organizations.

PLANNING THE SEASON

Coaches should create a plan for the season and for each practice that brings NICA's core values to life.

Season plans and practices should ensure that student-athletes:

- stay **safe** by progressively building skills
- have **FUN** and build community by incorporating team building activities and adventure rides
- embody **equity** and **inclusion** for all by following NICA's code of conduct and creating positive behavioral expectations
- **respect** the trails and other riders by participating in trail work days and being good stewards

While there are many student-athletes who focus on competition, performance, and achievement, the main focus of NICA programming should be to help student-athletes holistically develop along their journey as a cyclist, in sports, and as a member of the community.

Templates for emergency action plans, practice plans, and seasonal skills progression are available as part of NICA's online coach education and resources.

PRO-TIP

*You can access templates and other valuable coaching documents by logging into Pit Zone, clicking the white "COURSES, RESOURCES, & BENEFITS" button, and finding the **Coach Resources link** on the right side of your course dashboard.*

THE COACHES' TOOLBOX

NICA coaches need to improvise and use creativity to provide direction and challenge during skills instruction and practice. A coach sees a large grass field as a blank canvas. Coaches use their creativity to facilitate fun, enjoyable, and challenging experiences for student-athletes on bikes. Consider creating a small collection of items that can be used during practice.

EFFECTIVE USE OF A VENUE

Coaches should look for elements or characteristics of practice venues that provide opportunities to develop skills. A gravel or dirt path may have lower rolling resistance and create a linear flow for practice activities. A grass or dirt slope provides opportunities to practice climbing and descending skills. Trees and low vegetation are natural landmarks for turning drills.

TOOLS TO PROVIDE DIRECTION

Sports cones organize movement and provide direction similar to traffic cones on a roadway. Cones of various shapes and sizes are available at sporting goods stores. Nearly flat circular cones are inexpensive, lightweight, and easy to carry. Nearly flat cones are easily visible, but not knocked over or moved by wind. Pin flags, available in large quantities at home improvement stores, can be used similarly to cones. Pin flags are often more visible from a distance and good for larger areas. Sections of rope can be used to create a curved path for riders to follow. Spray chalk in grass can also assist in rider line choice and/or direction.

See Appendix B for diagrams of common cone layouts.

PRO-TIP

*Using **different colored cones** can be helpful to create visual reminders for riders – i.e. "start the skill at the green cone." If you don't have different colors, try using **two cones** right next to each other to create a cue in your cone setup.*

Flat sports cones (like those pictured above) are easy to carry, won't get knocked over in the wind, and are virtually indestructible should a student-athlete accidentally ride over the top of one!

TOOLS TO CREATE CHALLENGES

How do we re-create elements of a mountain bike trail when no trail is available or appropriate? Sticks or rocks may be nearby and collected for use during practice. When none are available, consider adding substitutes to your collection of tools. Tennis balls can represent rocks. Small sections of wood could be used as roots. Try a section of narrow PVC pipe to represent a slippery or wet root. Coaches can use tools for creative challenges.

Visit NICA's coach resources for a collection of on-the-bike games to provide more creative ways to challenge your student-athletes.

coach **tool box**

You don't need fancy equipment to facilitate great mountain bike skills learning. Coaches can create challenges with traditional sports tools (like cones) and more creative options, such as lengths of PVC pipe with grip tape, tennis balls, flagging, and a NICA favorite: rubber chickens or squeaky toys.

A coaches' arsenal for skills practice is limited only by their imagination!

SHORT COURSE

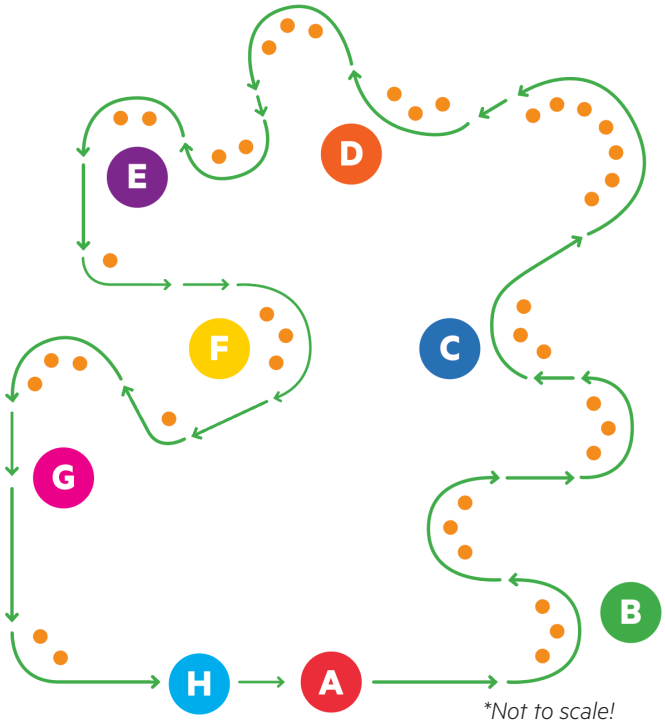
NICA encourages using a short course to simulate the demands of trail riding. The short course can be created in a field or park environment using cones, flags and the natural terrain. This allows coaches to minimize the risk of injury as they observe the student-athletes developing skills. The short course also provides an opportunity for the team to have a productive practice session when fewer coaches are present or when trails are closed or unavailable.

SAMPLE SHORT COURSE

KEY

- *rider path/direction*
- *cones or pin flags*
- A *start chute*
- B *cornering/turns*
- C *climb*
- D *descent*
- E *singletrack*
- F *pinch*
- G *feed zone*
- H *lap through*

COURSE LAYOUT



**Not to scale!*

The short course provides:

- A method to hold practice when fewer than the required number of coaches for trail riding ratios are available
- Opportunity for student-athletes to be creators of their environment
- Simulation of key aspects of NICA race courses
- A warm-up area
- Opportunity to assess rider trail readiness
- Endurance development
- Flexibility when resources are limited
- Easy access to emergency response
- Visibility to the community
- Inclusivity

Coaches are encouraged to consider using the short course for early season or mid-week practices, focusing on skills development, refinement, endurance building, and trail riding best-practices. The example above shows a sample short course.

Venue: The space required is highly variable as every venue is different. A football or soccer field is a suitable location or a park of approximately the same size. All participants should be within sight at all times.

Supplies: A package of 100 flags or small cones from your local hardware store.

RIDE BRIEFINGS

Head coaches should brief the coaching team before each practice to ensure that all are aware of the practice plan and outcomes for the day.

A pre-practice briefing for coaches is an essential part of a successful, fun, and safe ride with student-athletes.
PHOTO CREDIT: Montana Interscholastic Cycling League

PRE-PRACTICE COACH BRIEFING

The following should be addressed during the coach briefing:

- Practice plan
- Practice objectives
- Coach responsibilities
- Physical, social, and emotional considerations (for both coaches as well as student-athletes)
- Emergency response/action plan
- Current student-athlete skill level
- Potential progressions
- Resource management
- Weather and environmental variables

RIDE BRIEFINGS

Once the head coach has briefed the coaching staff on the practice plan, ride leaders are responsible for sharing that information with student-athletes. Coach roles should be assigned according to each individual's current license level and abilities (for example, a Level 1 coach may not be a ride leader).

STUDENT-ATHLETE BRIEFING BY RIDE LEADER

Consider the following guidelines for student-athlete briefings:

- Fair, consistent, and positive expectations for the practice
- Maintain a routine so everyone knows what to expect
- Keep it brief, don't overload student-athletes with information
- Communicate objectives for the practice/ride
- Provide a safety talk specific to the venue and practice activities
- Weather and environmental variables

A short, clear ride briefing can help student athletes know what to expect on-trail, and how to be active participants in risk management.
PHOTO CREDIT: First Place Photo, Delaware Interscholastic Cycling League

EFFECTIVE TRAIL GUIDING

After appropriate skills progression, coaches will move instruction to singletrack. Coaches should consider the additional complexities that come with this transition, in order to ensure a safe and fun experience for everyone.

BE PREPARED

Head coaches and ride leaders should pre-ride routes used for team rides. Become familiar with the terrain, hazards, exit points, shortcuts, and challenging features. Check for cellular phone coverage in case of an emergency (and know who to call in case of an emergency). Coaches should carry adequate tools, gear, nutrition, first aid, and communication device(s) in each ride group. Head coaches should create and communicate an Emergency Action Plan (EAP) for every practice venue. Ride leaders should carry a copy of this plan, as well as emergency contact and medical info for each of the participants on the ride. Ride leaders should also carry a small notepad or NICA Safety Reporting Field Notes to document and record situations that arise.

tips for **trail rides**:

Safety
Always communicate possible risks, and discuss behavior expectations with your ride group. Be clear and concise.

Ride
Ride responsibly, stop often, and monitor your group. Check in on athletes and other coaches. Be aware of your surroundings.

Reflect
End your trail rides intentionally. Ask your group: did you achieve your goals? What positive experiences did you have?

Trail riding isn't just about going for a spin on the singletrack; guiding NICA student-athletes safely requires preparation, risk management, and the ability to adapt and reflect as a coach.
PHOTO CREDIT: NorCal League

START WITH A SAFETY TALK

Before any ride begins, a coach should perform a safety talk. Communicate possible risks, as well as behavioral expectations, before embarking on the ride. Make your safety talk brief, clear, and memorable.

Stay behind the ride leader
The coach who is the ride leader stays at the front of the group and is responsible for navigation and pace of the group. When multiple coaches are present, ensure that a coach is also the last rider in the group. Recommended student-athlete to coach ratio is 8:2 or 6:1. Each group must have a Level 2 or 3 coach.

PRO-TIP

*As the popularity of mountain biking continues to grow, **trail etiquette** is one of the most important things we can teach our NICA student-athletes. Make it a priority to teach this before your team hits the trails!*

Stopping
Plan to stop as frequently as required to monitor the group. Announce that you are stopping by calling out "stopping" to the riders behind you. Ask them to also say, "stopping" to relay the message back through the group. Stop in a safe and visible area, and have all riders pull off the trail and allow a clear path for other trail users.

Spacing
Ask riders to leave a gap between them and the rider ahead. As speed and difficulty increases, greater distance should be maintained between riders.

Other trail users
Always respect other trail users and be sure to call out and pass others at a reasonable and safe speed. Remember that coaches and students should never pass another trail user at a speed that does not allow a simple "hello" and "thanks" to be spoken. Remind your athletes that uphill riders always have the right-of-way. When passing horses, use special care and follow directions from the horseback riders (ask if uncertain).

Separation from the group
Before a ride, speak with your team about what to do if a ride group is separated. Establish a place to regroup or meet. Ask riders to stop, move to the side of the trail and wait for a coach or group to return to them.

Environmental factors
Explain the possibility of encountering dangerous or hazardous wildlife and plants. Do not approach or scare animals. Identify harmful plants that may be present during the ride such as poison ivy. Identify how riders can avoid high-tick areas such as tall grass and inform riders when they should check for ticks after a practice. Discuss any weather concerns and what to do if weather changes quickly during your ride. Reference NICA's Weather Guide for more guidance.

Be a good trail steward
All riders should respect nature. Respect plants and wildlife. Ride only on open trails, avoid closed or wet trails. Consider other riding options if trails are wet and susceptible to damage from tires. Pack out all debris and trash that you create. Pick up and carry out what you may find left by others.

Route description
Let riders know what to expect and help them to anticipate the requirements of the ride. Factors like distance, elevation gain, and technical features or intensity of the ride are important to note.

Head count
Do not start the ride until you know how many riders you have in your group. Do frequent head counts throughout the ride, using the "CODL" method outlined on the next page.

DURING THE RIDE

While leading a ride, there are a number of skills required to ensure a safe and positive experience.

Ride responsibly
Provide a positive example. Ride at a suitable pace so that no rider in the group is over-exerting. Choose an appropriate riding line for others to follow. Consider how your actions may impact those who are watching you.

Stopping
One of your most important tasks as a ride leader is to initiate stops for your group in safe areas. The first stop is extremely important. Early in the ride, the ride leader should stop the group to ensure that nothing has been forgotten. Oftentimes, riders do not realize there is a problem until they start riding. Allow an opportunity to quickly resolve small concerns before getting too far into the ride. A simple mechanical adjustment or retrieving a forgotten item is not a big deal when resolved early. Later in the ride, the impact could be more significant.

Consider changing the order of riders during stops. Group dynamics are highly variable and constantly changing. Be mindful of rider order and its impact on group dynamics. Consider shuffling the order as needed.

During each stop, be sure to go through the "CODL" process (see below).

at each ride stop: "**CODL**"

Count
Count your group at the beginning of every ride; at each stop, count to ensure all riders are present.

Observe
Observe your group for behavior indicating a possible problem.

Describe
Describe the route and features ahead before restarting your ride.

Look
Look both ways on the trail to ensure it is safe to resume riding.

Practice CODL often when riding with NICA student-athletes - and don't forget to enjoy the scenery, too!
PHOTO CREDIT: Pennsylvania Interscholastic Cycling League

DURING THE RIDE (continued)

Monitoring
Monitor your group throughout the ride so that you can manage them safely. The level of monitoring may vary based on the difficulty of terrain and skill level of the riders. Monitor riders for fatigue, overheating, fear/anxiety, dehydration and coldness. Monitor bikes for mechanical issues. Monitor the surroundings for changes in plants or animal encounters. Monitor for changing weather. Monitor student-athletes and coaches with previous injuries or medical concerns. Monitor student-athletes' engagement, is the ride too difficult or too easy? Adjust the ride as needed to keep student-athletes appropriately challenged and having fun.

Shoulder checks
A shoulder check is when the ride leader turns their head to quickly observe riders behind. Shoulder checks should be performed frequently or any time the trail allows for an opportunity to turn your head safely. This is a learned skill and extremely important for a ride leader to practice. If unable to perform shoulder checks, the ride leader should expect to stop more frequently to monitor the group.

Communicate
Once the ride begins, you are responsible for setting the tone. Call riders by name and show a sincere interest. Involve everyone. Use positive body language. Remember your role is to facilitate a fun experience.

Trailside repairs
As a ride leader, basic bike maintenance skills are required. Regardless of preparation, mechanical issues do occur periodically during rides. Expect to encounter mechanical situations and be prepared to perform at least simple repairs for issues such as flat tires, loose bolts, and shifting.

Be ready to respond to an accident
Ride leaders are required to be NICA Level 2 licensed coaches, which includes first aid training to respond effectively to a possible accident. Regardless of your preparation and ride management, accidents do happen. Coaches need sufficient maturity and composure to deal with accident situations. Leadership is always needed. Sub-standard care is not acceptable. BE PREPARED! Even if no injury occurs during an accident, be sure to do a complete inspection of the rider's bike before continuing. Ensure brakes are functioning, wheels are true, handlebars are straight, etc.

RIDE WRAP-UP

Your final task is to wrap-up the ride. Reflect on practice objectives, positive group experiences, and achievements. Make sure everyone leaves on a good note, remembering those final positive feelings. If an incident did occur, be sure that proper reporting, including completion and submission of a NICA Incident Report, is done in a timely manner.

PRO-TIP

*Keep reflection questions **open, but focused:** "What went well on this ride? What could have gone better? What will you do next time you ride this trail?*

SKILLS INSTRUCTION

The purpose of the NICA On-the-Bike skills training is to provide coaches with the knowledge, skills and abilities to effectively teach fundamentals to student-athletes at varying stages of skill development.

The ***"tell it, show it, do it, review it"*** method outlined in this section offers a simple, structured system that coaches can use to teach mountain bike skills. The steps outlined in this method meet the needs of learners by allowing them to hear, see, and practice each skill.

The NICA method of instruction provides a consistent, straightforward framework for athletes learning new skills, and for athletes reviewing their MTB basics.
PHOTO CREDIT: Wisconsin Interscholastic Cycling League

One of the most impactful things you can do as a coach is to **talk less**. Allow more time and space for your student-athletes to explore the movement pattern of a new skill by actually doing it. As coaches, we love to share our knowledge and experience with student-athletes through stories and examples, but when introducing a new skill, less is more. Incorporate your stories and examples throughout the season for a greater impact.

Tell it
Show it
Do it
Review it

NICA method of instruction

NICA METHOD OF INSTRUCTION

TELL IT

Name and describe the skill

Name the skill: Simply announce what you plan to teach and ensure you have the participants' attention.

Describe: When, where, and why the skill is used.

SHOW IT

Static & moving demonstrations

Static demonstration: Explain teaching points with a static demonstration.

Moving demonstration: Demonstrate the skill being performed. Travel through your cones or practice area as you expect others to do. Consider how athletes are positioned as they view the demonstration (i.e. bike body separation side to side should be demonstrated while riding towards the participants and bike body separation front and back should be demonstrated while riding past the participants). Do not provide verbal instruction while doing the moving demonstration.

Prompt for questions: Ask student-athletes, "What questions do you have?" and allow for at least seven seconds of wait time before moving on.

PRO-TIP

*Intentional language can make a big difference in your coaching practice. **"What questions do you have?"** implies that there SHOULD be questions, and opens the door for student-athlete follow up.*

DO IT

Practice and progression

Student practice: Allow participants to practice the skill. Use observation and movement analysis to assist riders as they attempt the skill. Position yourself with a clear view of those performing the skill and those returning to try again. Keep everyone in front of you. Provide feedback and encouragement as required. Show adequate attention to each rider.

Offer progressions: As riders show proficiency, offer small progressions to promote continued learning.

Timing
your instruction

You should be able to finish the "tell it" and "show it" phases in about two and a half to three minutes. After that, move on to the "do it" phase of instruction, so student-athletes can actively practice the skill. Get them moving, but don't be afraid to regroup if you are observing lots of errors. Review the teaching points and provide another demonstration as needed.

REVIEW IT

Wrap up

Prompt the group for any remaining questions. Ask them what they felt while attempting the skill. Ask the group to repeat the teaching points to ensure they are learning. Highlight improvements that you witnessed. Connect to future learning. Help student-athletes understand how the skill they just learned will connect with skills they learn in the future.

OBSERVATION & MOVEMENT ANALYSIS

Rider observation
To coach riders effectively, we first need to account for each rider's skill level by observing them in action. 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 provide specific, actionable feedback to correct the movement. Familiarize yourself with all key movements and common errors for each skill.

Movement analysis
Movement analysis has two parts. First, you observe and account for the movements of the rider's body as they attempt a skill. Make mental notes of what you see, noting the rider's body position—body core, center of mass, and position of arms and legs—before, during and after they run through a given skill. Second, compare what you see to the teaching points for each skill, noting how closely the rider matches the points and where they differ. 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 corrective feedback to skills that you have previously taught or are currently teaching.

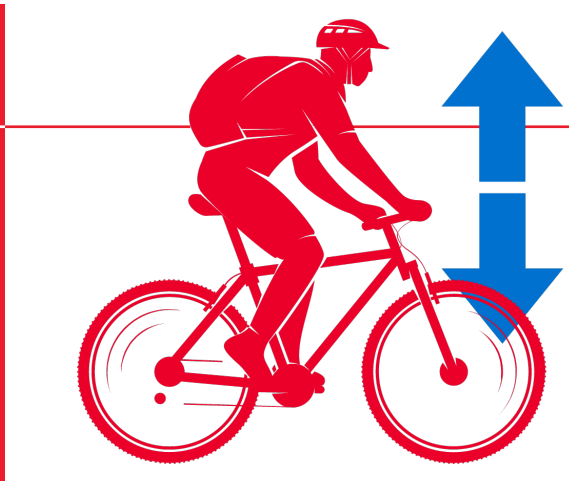
There are numerous methods for providing feedback. As a coach, your individual style and experience will determine which of the following approaches you use. Before giving any feedback to the student-athlete, decide which approach you want to use for the situation.

- *Silently observe the error and give specific, actionable feedback.*
  You silently determine the error, find a correction, and then give direction. A quick tip or reminder is all that may be required. Throughout this correction, the actual error is not verbalized. This approach works well for errors related to the teaching points and very common errors. Keep feedback short and concise.
- *Explain the error and give specific, actionable feedback.*
  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, be honest.*
  Ask for 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 to resolve the error.

develop a **system**

Developing your own personal system for skill observation brings consistency to your movement analysis.

For example, scan each rider from their feet up to their helmet to hone in on key areas where errors can occur.



10 FUNDAMENTAL ELEMENTS

PRO-TIP

When analyzing student-athletes' skills, keep these in mind. Many common errors in skills practice can be attributed to the 10 Fundamental Elements

The **fundamental elements** are the foundation of all mountain bike skills. A comprehensive understanding of the fundamental elements will assist coaches with the ability to observe and assess a rider performing a skill or riding a trail. Typically when coaches observe an error that they cannot identify, one or more of the fundamental elements is off and needs correction. Some of the fundamental elements are skills on their own and others are building blocks of skills.

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. The foot should be positioned on each pedal properly: on the ball of foot for clipless pedals or slightly forward for flat pedals. Pedal position is also involved when a rider is poised with the pedal in a power position during the approach to a challenge. Lastly, the rider can properly manage balance and control by rotating the feet on the pedals with ankle deflection. Heel(s) down when braking. 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. The bike follows the eyes. As the rider's speed increases, they will need to look further ahead.

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 too slow of a speed may have difficulty with balance and stability. Riders moving too quickly are often out of control.

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
Timing and coordination involves putting all of the fundamentals and skills together at the correct time and sequence at the right speed. Timing and coordination is the key to intermediate and advanced riding.

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 in most skills. Pressure control can be the overlooked key to success.

PART TWO:

OTB 101 Skills

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. Stress the three key essentials during skills training and observation.

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

NEUTRAL POSITION

The neutral position is a tall and relaxed standing position on the bike, used when cruising relatively easy terrain such as grass fields, wide paths, gravel roads, etc. The position can also provide a moment of rest between challenging features.

When observed, the rider should appear tall and relaxed with a slight bend in the elbows and knees while standing. The rider's weight should be centered over the bike with level pedals.

*The goal is to **maintain a relaxed position** while standing and coasting, keeping equal weight on the front and rear wheels through weighting the feet.*[1]

Site Selection

- Smooth, flat terrain
- Use cones to provide a basic runway and turn-around point

Teaching Points

- Standing tall and relaxed
- Slight bend in knees and elbows
- Weight in the feet:
  "heavy feet, light hands!" [2]

Demonstrations

Static: Side view, standing next to the bike with a slight bend in elbow and knees.
Moving: Side view. Speed is slow jogging pace. Coast in a neutral position and emphasize the relaxed stance with a very slight bounce in knees and loose elbows.

[1] *International Mountain Bike Association (IMBA) Instructor Certification Program (ICP) Level 1-Ride Guide Manual. 2016.*
[2] *McCormack, Lee. Teaching Mountain Bike Skills. National Interscholastic Cycling Association. Race Line Publishing. 2011.*

movement **analysis**

COMMON ERRORS	SPECIFIC, ACTIONABLE FEEDBACK
Rider too far forward or back	Stay balanced, weight in feet
Legs or arms too bent	Stand tall and relaxed
Pedals uneven	Level pedals, equally weighted
Incorrect use of any 10 fundamental elements	Correct as needed

READY POSITION

The ready position is a balanced standing position used to prepare for a variety of challenges along the trail. The ready position also puts the rider's body in an appropriate position to transition to other skills. This position has a dynamic range of motion during terrain changes and skills performed. The key is to remain balanced and ready for what is next.

When observed, the ready position mimics a crouched athletic stance that is used for many sports and physical activities.

*The goal is to **maintain balance, maximize strength, and minimize response time** by weighting the feet and bending the elbows and knees.*

Site Selection

- Smooth, flat terrain
- Use cones to provide a basic runway and turn-around point

Teaching Points

- Deep bend in elbows and knees (athletic stance)
- Weight in the feet: *"heavy feet, light hands!"* [2]
- Elbows out

Demonstrations

Static: Side view, standing next to the bike.
Moving: Side view. Speed is slow jogging pace. Approach in a neutral position. Transition smoothly into the ready position when closest to the viewers. Then, return to the neutral position as you ride away.

Mention that the ready position is a *dynamic* position. A higher or lower ready position may be required based on changes in terrain or skill about to be performed.

Consider combining neutral position and ready position into one drill for groups beyond novice skill level.

movement **analysis**

COMMON ERRORS	SPECIFIC, ACTIONABLE FEEDBACK
Elbows and knees not bent substantially	Deeper crouch
Elbows down rather than out	Suggest a strong push-up posture, elbows out
Incorrect use of any 10 fundamental elements	Correct as needed

BRAKING

Braking is used to reduce speed, maintain speed while descending or bring the bicycle to a controlled stop. Braking is used in varying amounts and combinations to control the bicycle without skidding.

*The goals are to utilize **both brakes in a safe, controlled manner** to reduce speed while riding and to come to a complete stop from a range of speeds using proper technique.*

Site Selection

- Smooth, flat terrain
- Use cones to provide a basic runway and turn-around point

Teaching Points

- Ready position
- Apply appropriate pressure to brake levers: toothpaste analogy
- Forward foot heel down, or both heels down as necessary

Demonstrations

Static: Side view, standing next to the bike.
Moving: Side view. Speed is slow jogging pace. Make sure your forward foot is closest to the athletes for proper observation of the heel drop. Come to a controlled stop while providing clear use of heel drop. Demonstrate how weight shifts down and back to counteract the forces of braking.

*Consideration should be made for those with varying technologies of brakes (i.e. disc vs. rim). Proper brake lever alignment is critical to braking and the success of many other skills. Adjust the position, angle, and reach of each brake lever to best suit the type of brake and rider. **One-finger braking is preferred.** Two is acceptable for smaller riders or less powerful brakes.*

movement **analysis**

COMMON ERRORS	SPECIFIC, ACTIONABLE FEEDBACK
Having trouble stopping	Check to make sure brakes and/or brake levers are functioning properly
Skidding	Adjust pressure to front/rear brake levers, exaggerate heel drop and weight shift
Jerky braking	Reinforce modulation of brakes (toothpaste analogy)
Body weight going forward	Exaggerate heel drop and weight shift
Incorrect use of any 10 fundamental elements	Correct as needed

BIKE BODY SEPARATION: Forward & Back

Forward and back bike body separation are used to maintain vertical balance and stability while riding on any incline or decline – typically climbing or descending and when riding on a pump track or through rollers. The forward position is used for inclines. The back position is used for declines. Over undulating terrain, riders must allow the bike to move forward and back smoothly to maintain balance and control.

*The goal is to **move between a forward and a back position** while showing appropriate use of all other fundamental elements.*

Site Selection

- Smooth, flat terrain
- Use cones to provide a basic runway and turn-around point

Teaching Points

- Maintain a low ready position
- Forward: move shoulders over the handlebars
- Back: move hips back and extend arms without locking elbows
- Torso moves on a level plane

Demonstrations

Static: Side view, standing next to the bike.

Moving: Side view. Speed is slow jogging pace. Coast in a ready position. Slide forward until the hips are in front of the saddle and the chest is over the handlebars, then slide back on an even plane so the hips are behind the saddle. Briefly pause in between the front and back positions in a balanced ready position.

movement **analysis**

COMMON ERRORS	SPECIFIC, ACTIONABLE FEEDBACK
Rider having trouble with balance	Lower and more stable ready position; increase speed if required
Rider goes too far back, locking elbows	Keep a slight bend in the elbows for horizontal stability
Shoulders high or standing too tall	Bend elbows to lower chest or bend knees to lower hips
Incorrect use of any 10 fundamental elements	Correct as needed

BIKE BODY SEPARATION: Side to Side

Side to side bike body separation is critical to riding a specific path while maintaining horizontal balance and stability. Examples are riding narrow singletrack, cornering, or dodging obstacles at handlebar level, such as trees and other riders.

*The goal is to **lean the bike from one side to the other** while maintaining a balanced ready position, showing appropriate use of all other fundamental elements.*

Site Selection

- Smooth, flat terrain
- Use cones to provide a basic runway and turn-around point

Teaching Points

- Low ready position with wide knees
- Hinge at the elbows: “windshield wiper” or “scarecrow” arms
- Lean bike without steering
- Keep torso still

Demonstrations

Static: Front view, standing next to the bike.
Moving: Front view. Speed is slow jogging pace. Coast straight towards your participants while leaning the bike from side to side. You may need to do this multiple times to allow everyone in the group to see a front view.

movement **analysis**

COMMON ERRORS	SPECIFIC, ACTIONABLE FEEDBACK
Not riding in a straight line	Increase speed; more bike lean, less steering; center weight over bike
Moving hips or chest	Keep the torso still. Lean bike by hinging at elbows: “windshield wiper” or “scarecrow” arms
Not leaning much	Widen knees and lower the shoulders
Incorrect use of any 10 fundamental elements	Correct as needed

INTRODUCTION TO CORNERING

Cornering is used to maintain balance, momentum, and speed while making dramatic changes in direction. Often used when riding on flat or descending terrain. Cornering is a complex skill with numerous teaching points and progressions. For that reason, we offer an introduction at this first level of instruction.

While the rider may steer the bike through tight turns at slow speed, cornering involves leaning the bike. When cornering, the rider must lean the bike in the intended direction. This causes the bike to arc in that direction. The rider remains in a low ready position with equally weighted pedals to provide stability and distribute body weight evenly over the front and rear wheels.

*The goal is to **maintain balance** while making dramatic **changes in riding direction.***

Site Selection

- Smooth, flat terrain, or gentle downgrade
- Use cones to create a right-angle turn or slalom course

Teaching Points

Low, look, lean:

- **Low** ready position
- **Look** in the direction of the turn
- **Lean** the bike in the direction of the turn while maintaining level pedals

Demonstrations

Static: Front view, standing next to the bike.
Moving: Front view. Speed is jogging pace.
Right-angle turn demonstration: Have participants near the end of a right-angle turn and face you. Coast through turn, demonstrating teaching points. Maintain bike lean as you travel through the arc of turn.
Slalom demonstration: Coast straight towards your participants while leaning the bike from side to side. Allow the bike to create a gentle curving path between a line of cones while your torso remains still.

movement **analysis**

COMMON ERRORS	SPECIFIC, ACTIONABLE FEEDBACK
No bike lean/not enough bike lean	Reduce speed to provide confidence; return to bike body separation side to side
Wide cornering	Lean more; reduce speed; rider position too far back – move forward to stay centered and balanced over the bike; eyes up, focus on the exit of the corner
Difficulty maintaining balance	Stress level pedals, equally weighted; increase speed
Incorrect use of any 10 fundamental elements	Correct as needed

SHIFTING

Shifting is used to maintain an efficient and comfortable pedaling cadence while riding over varied terrain. When cadence is too low, more force is required to pedal which can cause early or excessive fatigue. It can also create unnecessary strain on the knee joint. When cadence is too high, the rider is unable to accelerate. As a coach, we want to provide guidance on how and when to shift the gears. Use the terminology easier/harder gear because they correspond to sensations that the rider will feel when they shift.

*The goal is to help the rider understand how shifting gears affects **comfort and efficiency** over varying terrain.*

Site Selection

- Start with the basic cone configuration on smooth, flat terrain; progress to slightly sloping grass area offering varying resistance
- Use cones to create a large rectangle directing riders both up and down the sloped terrain

Teaching Points

Surge, soft, shift:

- **Surge –** pedal forward forcefully
- **Soft –** reduce force on the pedals
- **Shift –** continue soft pedaling until the chain moves
- Resume pedaling

Demonstrations

Static: Front view, standing next to the bike.
Moving: Side view. Speed is slow jogging pace. Make sure the drive-side of the bike is facing the athletes. *Exaggerate* the surge with appropriate body language. Maintain quiet shifting as you shift one gear at a time.

tension demonstration

It can be challenging to explain chain tension (and the importance of "soft" pedaling) to those who are new to biking. This demonstration can help.

Stand behind your bike with the drive side facing student-athletes. With the drive-side pedal in the 3 o' clock position, apply pressure with your left hand to the pedal, while keeping the bike still. "Pluck" the chain like a guitar string with your right hand to show student-athletes how much tension exists within the chain when under "load" from the pedal. Remove pressure from the pedal and pluck again: the chain will be much looser.

movement **analysis**

COMMON ERRORS	SPECIFIC, ACTIONABLE FEEDBACK
Noisy shifting	Check to make sure derailleurs are adjusted properly; bigger surge to provide more momentum; shift earlier, before resistance is too high; soft pedal until shift has completed
Incorrect use of any 10 fundamental elements	Correct as needed

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.

*The goal is to be able to **get off of the bike safely** while climbing. After all, walking is a method of climbing that is often used in mountain biking!*

Site Selection

- Smooth, varied incline terrain

Teaching Points

- **Look** for a space to put your foot down
- **Lock** both brakes
- **Lean** the bike the direction you are looking
- **Land** stepping forward/uphill

Demonstrations

Static: Front view, standing next to bike.
Moving: 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.

movement **analysis**

COMMON ERRORS	SPECIFIC, ACTIONABLE FEEDBACK
Bike leans to the opposite side of the foot that is removed from the pedal	Look in the direction that the bike will lean
Athlete struggles to dismount on side that is not natural to them	Focus on the *look* and the *lean* will follow
Rider steps behind the bottom bracket – front wheel is unweighted	Step further forward/uphill
Rider gets hung up on saddle or top tube	More lean before landing/planting foot.
Incorrect use of any 10 fundamental elements	Correct as needed

CLIMBING: Seated Climb

Seated climbing is often the most efficient climbing method as the majority of the rider's body weight is supported by the bike seat. The upper body can remain relaxed with minimal movement. Power is provided by muscles in the lower body.

*The goal is to climb **easy to moderate inclines** efficiently while in a seated position.*

Site Selection
- Smooth, gently inclined terrain

Teaching Points
- Shift gears
- Shoulders forward
- Slide hips forward as terrain steepens

Demonstrations
Static: Revisit forward and back bike body separation.
Moving: Side view. Speed is slow jogging pace. Ride up an easy incline while exaggerating a forward body position.

movement **analysis**

COMMON ERRORS	SPECIFIC, ACTIONABLE FEEDBACK
Front wheel lifts off the ground	Move hips and shoulders forward; bend arms and lower chest; use harder gear
Front wheel wanders	Keep upper body still; continue to look up and ahead
Rear tire loses traction	Smooth and even pedal stroke; easier gear
Incorrect use of any 10 fundamental elements	Correct as needed

CLIMBING: Crouched Climb

The **crouched climb** is used to navigate short portions of technical climbs. The hips are hovering above the saddle and shoulders are above the handlebars. This position allows for quick bike body separation to maintain balance and traction. Crouched climbing is the most strenuous method of climbing but very effective in technical terrain.

*The goal is to develop good **bike body separation** to maintain balance and traction while climbing technical terrain.*

Site Selection

- Rough, uneven terrain of moderate to steep incline

Teaching Points

- Shoulders low
- Elbows out
- Move hips forward
- Hover over the saddle

Demonstrations

Moving: Side view. Speed is slow jogging pace.

movement **analysis**

COMMON ERRORS	SPECIFIC, ACTIONABLE FEEDBACK
Can't steer or loses balance	Check for balanced position; eyes scanning ahead, focused on the line of choice; deep crouch with shoulders low; check for hips off the saddle
Rear tire loses traction	Shift weight back; check gear selection
Incorrect use of any 10 fundamental elements	Correct as needed

CLIMBING: Standing Climb

The **standing climb** is used to accelerate on climbs that are not technical or loose. Standing consumes more energy as the rider must now balance and support the weight of the entire body. The standing climb is also used as a break during long seated climbs, to stretch the muscles, or to burst over the crest of a hill.

*The goal is to develop **good timing and coordination** when rocking the bike from side to side during a standing climb.*

Site Selection

- Short, steep climbs on road or smooth-packed dirt

Teaching Points

- Stand up
- Power pedal
- Pull

Demonstrations

Moving: Front view, from top of climb. Ride up a steep incline while exaggerating the bike rocking side to side.

movement **analysis**

COMMON ERRORS	SPECIFIC, ACTIONABLE FEEDBACK
Bike is steering from side to side	Coordinate the timing of the pull and push; pull up and side to side, not back
Rear tire loses traction	Shift weight back; check gear selection
Incorrect use of any 10 fundamental elements	Correct as needed

THANK YOU

Thank you for taking the time to be a NICA coach.
Teaching fundamental skills is one of the *most important* things you can do with your student-athletes.

Learning the fundamental skills give student-athletes the confidence they need to ride safely, learn and most importantly: have fun.

PHOTO CREDIT: Aaron Puttcamp, Pennsylvania Interscholastic Cycling League

OTB 101
Appendices

Print these appendices for quick reference/use in the field.

Appendix A:
On-the-Bike skills trainer field notes
Pages 39-42

Appendix B:
Common cone layouts
Pages 43-45

Appendix C:
Student-athlete evaluation
Page 46

ON-THE-BIKE SKILLS: Trainer Field Notes

A printable overview of each OTB 101 skill, with site selection, teaching points, demonstrations, and possible progressions

NICA METHOD OF INSTRUCTION

Tell It
- Name the skill
- Explain where, when, why it is used

Show It
- Explain teaching points with static demonstration
- Provide a moving demonstration
- Prompt for questions

Do It
- Have students practice and provide feedback
- Offer progressions if appropriate

Review It
- Prompt for remaining questions
- Summarize teaching points

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

NEUTRAL POSITION

Where
Cruising easy terrain

Teaching Points
- Standing tall & relaxed
- Slight bend in elbows & knees
- Weight in the feet: *"Heavy feet, light hands!"*

Demonstration
STATIC: Side view, standing next to bike
MOVING: Walking/jogging speed, side view

Progressions
- Combine with ready position

READY POSITION

Where
Technical terrain or feature

Teaching Points
- Deep bend in elbows & knees (athletic stance)
- Weight in the feet: "Heavy feet, light hands!"
- Elbows out for stability

Demonstration
STATIC: Push-up drill (elbows in vs. elbows out)
MOVING: Walking/jogging speed, side view

Progressions
- Low ready position
- High ready position
- Seated ready position

Activities
- Slow race

ON-THE-BIKE SKILLS: Trainer Field Notes

BRAKING

Where
Slowing or stopping without skidding

Teaching Points
- Ready position
- Apply both brakes appropriately (toothpaste analogy)
- Forward foot heel down, or both heels as necessary

Demonstration
- STATIC: Identify front brake and rear brake, heel drop for bracing leg
- MOVING: Fast walk/jogging speed, side view

Progressions
- Stop using only one brake then the other
- Stop at specific point; timing
- Increase speed
- Stop while descending
- Pressure control

Activities
- Red light, green light

BIKE BODY SEPARATION: Forward & Back

Where
Climbing & descending

Teaching Points
- Maintain a low ready position
- Forward: move shoulders over the handlebars
- Back: move hips back and extend arms without locking out elbows
- Torso moves on a level plane

Demonstration
- STATIC: Side view, standing next to bike
- MOVING: Jogging speed, side view

Progressions
- Add timing element
- Add frequency
- Add terrain or ramps

Activities
- Pump track

BIKE BODY SEPARATION: Side to Side

Where
Cornering, straight lines, avoiding obstacles (trees)

Teaching Points
- Low ready position with wide knees
- Hinge at the elbows (scarecrow arms or windshield-wiper arms)
- Lean bike without steering
- Keep torso still

Demonstration
- STATIC: Front view, standing next to bike
- MOVING: Jogging speed, front view

Progressions
- Ride on line or skinny feature
- Change speed/frequency of bike lean
- Dodge an obstacle while riding in a straight line

Activities
- Slalom with cones
- Dual slalom race

ON-THE-BIKE SKILLS: Trainer Field Notes

INTRODUCTION TO CORNERING

Where
To change direction

Teaching Points
- LOW ready position
- LOOK in the direction of turn
- LEAN the bike in the direction of turn while maintaining level pedals

Demonstration
- STATIC: Stand next to bike, LOW, LOOK, LEAN
- MOVING: Right angle turn, front view

Progressions
- Increase speed
- Add multiple turns
- Incorporate hip rotation and pressure control
- Line choice variation

Activities
- Slalom
- Descending slalom

SHIFTING

Where
To maintain desired cadence and pedaling efficiency on varied inclines/declines

Teaching Points
- SURGE - pedal forward forcefully
- SOFT pedal - reduce force on the pedals
- SHIFT and continue soft pedaling until the chain moves
- Resume pedaling

Demonstration
- STATIC: Chain tension, bike roll in easiest/hardest gears
- MOVING: Side view, jogging speed, quiet shifting, exaggerate surge

Progressions
- Shift through all gears
- Shift without looking down
- Shift on command
- Shift on gentle hill
- Shift front derailleur (if present) with chain in the middle of the cassette

Activities
- Oval on sloped grass
- Easiest gear, hardest gear races

CLIMBING DISMOUNT

Where
Whenever stopping is required while climbing

Teaching Points
- LOOK for a space to put your foot down
- LOCK both brakes
- LEAN the bike the direction you are looking
- LAND stepping forward/uphill

Demonstration
- STATIC: Stand over bike and show the forward position expected
- MOVING: Side view, walking pace, athletes on uphill side

Progressions
- Increase steepness of climb
- Vary surface type
- Traverse slope & land on uphill side
- Instruct riders to land on a specific spot (stable rock or cone on the ground)
- Combine with climbing restart (201 skill)

Activities
- Simon says, “Stop!”
- Hill climb challenge
- Starting on a climb

ON-THE-BIKE SKILLS: Trainer Field Notes

SEATED CLIMB

Where
To climb easy to moderate slopes efficiently in a seated balanced position

Teaching Points
- Shift gears
- Shoulders forward
- Slide hips forward as terrain steepens

Demonstration
- MOVING: Side view, walking speed

Progressions
- Increase steepness of climb
- Longer climb
- Shift gears while climbing
- Crouched and standing climbing
- Technical terrain - low ready position with elbows out
- Non-technical terrain - low ready position with elbows in for power
- Pressure control

Activities
- Oval on a grassy hillside
- Hill repeats on a dirt road or trail

CROUCHED CLIMB

Where
As required for steepness of grade or to navigate obstacles using bike body separation

Teaching Points
- Shoulders low
- Elbows out
- Move hips forward
- Hover over the saddle

Demonstration
- MOVING: Side view, walking speed

Progressions
- Increase steepness of climb
- Reduce speed
- Add obstacles

Activities
- Oval on a grassy hillside
- Hill repeats on a dirt road or trail

STANDING CLIMB

Where
To rest muscles used while seated climbing on a long climb, when traction is good, or to utilize body weight to accelerate

Teaching Points
- Stand up
- Powerful pedal strokes
- Pull with hands

Demonstration
- MOVING: Side view, fast walking speed

Progressions
- Increase steepness of climb
- Change gears while climbing

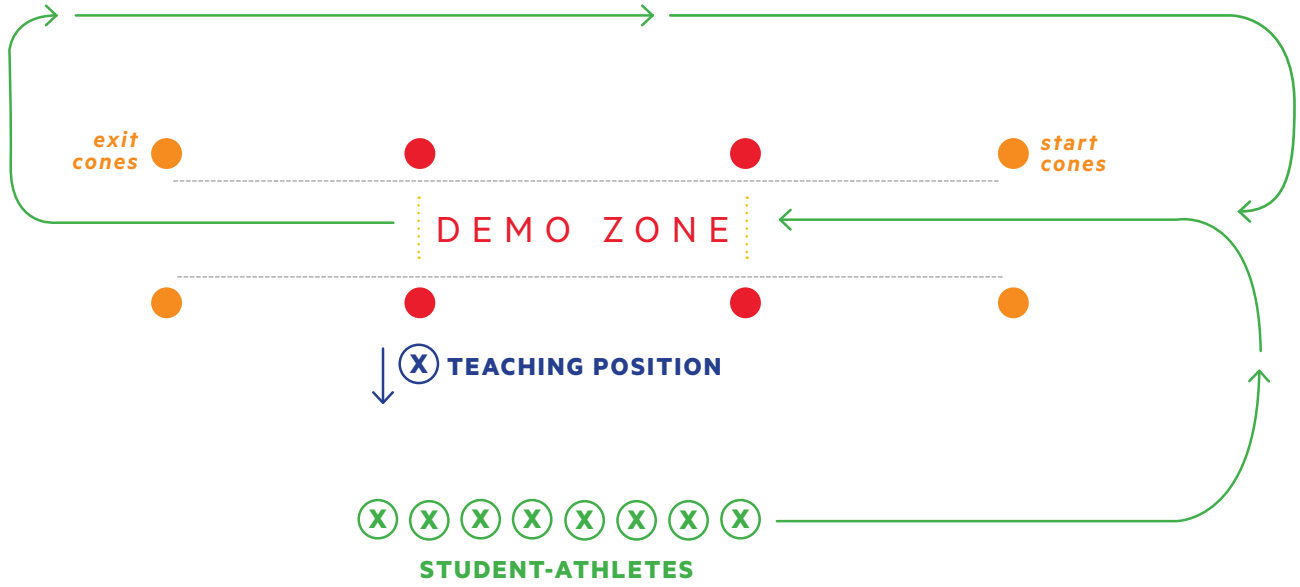
Activities
- Oval on a grassy hillside
- Hill repeats on a dirt road or trail

ON-THE-BIKE SKILLS: Common Cone Layouts

A printable overview of common cone layouts used for teaching NICA's OTB 101 skills.*

TYPICAL SKILLS RUNWAY

For neutral and ready positions, braking, bike body separation, and shifting



- Look for a flat, open field; a very slight decline in the demo zone is helpful, especially in taller grass.
- Position yourself so that you are facing the sun OR any distractions in the area so the focus is on you and your instruction.
- Make sure the demo zone has plenty of room for the student-athletes to perform the skill.
- Follow the above pattern and position yourself to view student-athlete demos and provide feedback before they circle back for their next demo.
- Provide clear instructions on pacing, spacing, and repetitions for each skill. Do your best to keep athletes moving and participating.
- Give yourself more space than you think you need.
- **Test the setup** before practice.

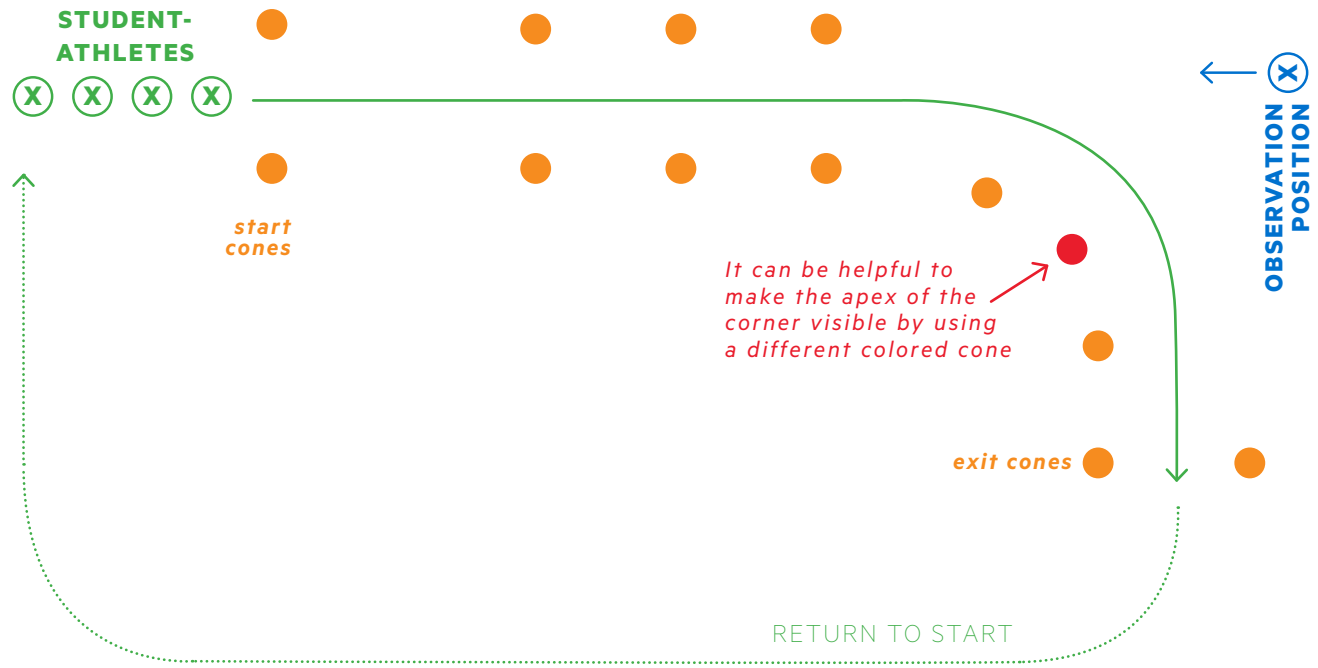
**Cone layouts are representative; scale may need to be adjusted based on your practice location and environmental constraints*

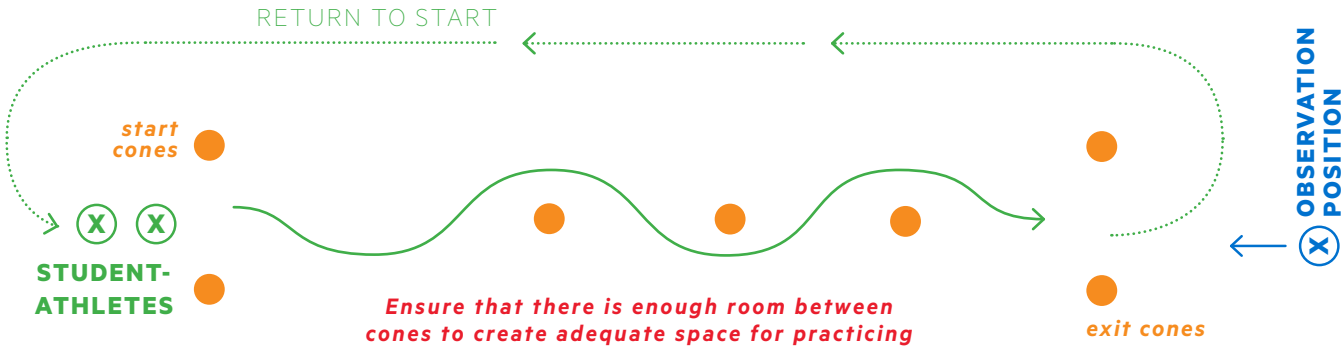
ON-THE-BIKE SKILLS: Common Cone Layouts

INTRO TO CORNERING

Start with a 90-degree corner (A) and progress to slalom-style drill (B)

A: 90-DEGREE CORNERING CONE SETUP





Ensure that there is enough room between cones to create adequate space for practicing smooth cornering. *A good guideline is to place cones about 5 paces apart. You may want to use more cones if space allows.*

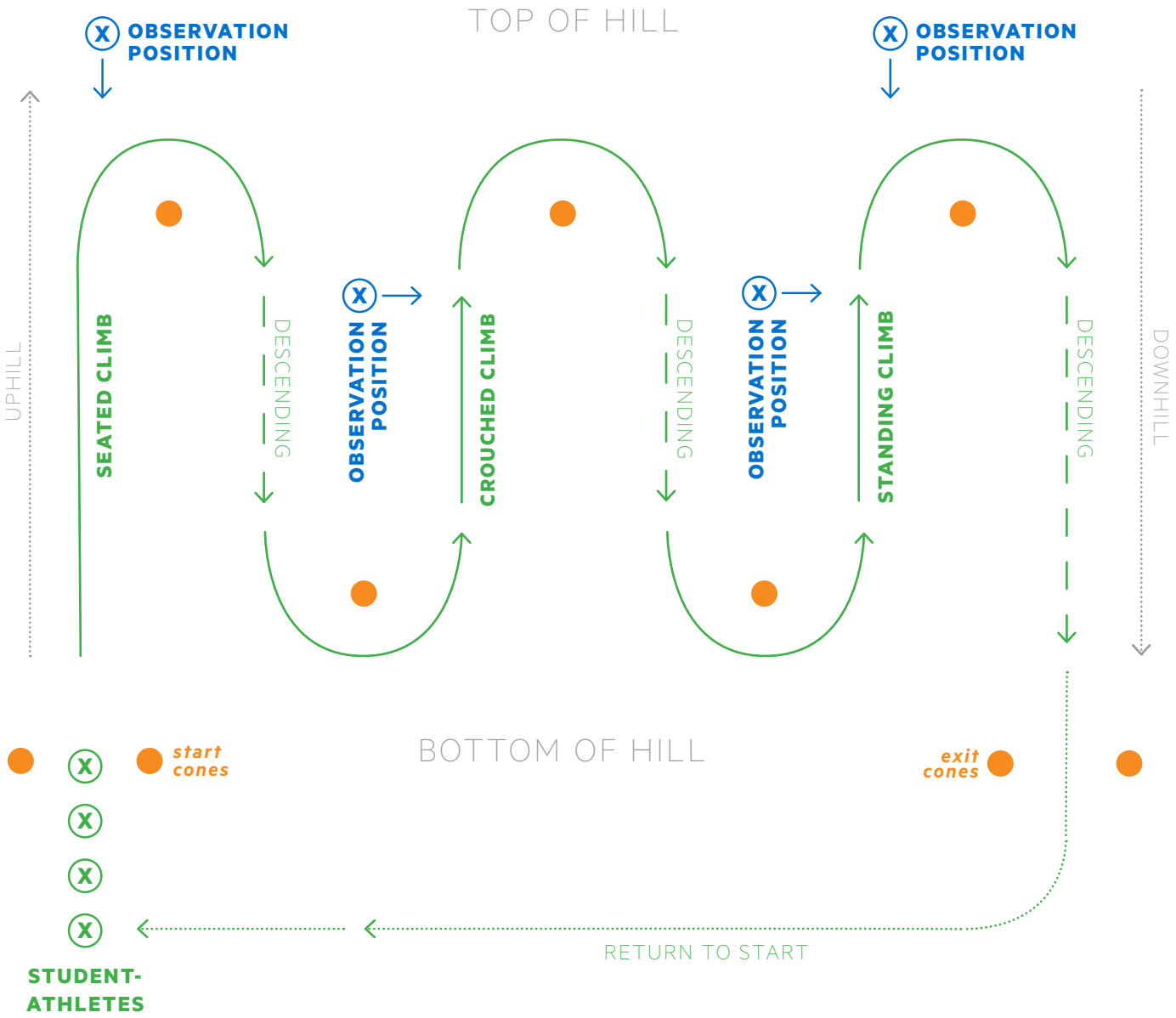
B: SLALOM-STYLE CORNERING CONE SETUP

**Cone layouts are representative; scale may need to be adjusted based on your practice location and environmental constraints*

ON-THE-BIKE SKILLS: Common Cone Layouts

CLIMBING

Find a slope with appropriate steepness to practice each type of climb; then, set up a circuit for student athletes to fine-tune their skills



**Cone layouts are representative; scale may need to be adjusted based on your practice location and environmental constraints*

ON-THE-BIKE SKILLS: Student-Athlete Evaluation

ATHLETE NAME: _____ DATE: _____

EVALUATED BY: _____ LOCATION: _____

CRITERIA			COMMENTS
Is the athlete physically, psychologically, and socially ready for singletrack group rides?			
SKILL DEVELOPMENT	**ASSESSED SCORE**	**APPROVED TRAIL DIFFICULTY**	**COMMENTS**
NEUTRAL & READY POSITIONS			
BRAKING			
BIKE BODY SEPARATION: Forward & Back			
BIKE BODY SEPARATION: Side to Side			
INTRO TO CORNERING			
SHIFTING			
CLIMBING DISMOUNT			
SEATED CLIMB			
CROUCHED CLIMB			
STANDING CLIMB			

↑

A 1-4 scale can be used to assess student-athletes' skill development in each area:

1 - EMERGENT: Student-athlete cannot demonstrate the skill; major errors may be present
2 - DEVELOPING: Student-athlete can demonstrate the skill, but not consistently; minor errors may be present
3 - PROFICIENT: Student-athlete can demonstrate the skill consistently and without major errors
4 - ADVANCED: Student-athlete can demonstrate the skill consistently with correct and consistent timing, coordination, and control

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