



PERFORMANCE CYCLING CONDITIONING

A NEWSLETTER DEDICATED TO IMPROVING CYCLISTS

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Dealing with Road Rash from Medicine of Cycling Conference

Paul Engler RN B.S.N.

Paul Engler, BSN, RN has been working in medicine for 25 years. A cyclist for more than 30 years, he has enjoyed riding for recreation, racing, and gravel grinding. Paul is a member of the Lawrence Bike Club, Kaw Valley Bike Club, Medicine Of Cycling, and USA Cycling

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Cycling has many health benefits. However, there is always a risk of injury or medical issues. As a cyclist, a nurse and event volunteer, I find myself helping injured cyclists, doing medical assessments and giving treatment. I wanted a new resource to educate myself on injuries, prevention, improving care and educating the public. My solution was to attend the yearly conference in Colorado Springs presented by Medicine of Cycling™. It turned out to be wonderful resource for medical professionals who are involved in the sport. The Medicine of Cycling™ mission is prevention of crashes with injuries and rehabilitation with performance to help cyclists across the country get better care and help them achieve their goals.

This organization is affiliated with USA Cycling and is made up of a panel of sports doctors from around the country and teaching universities. Professional team doctors from Cannondale Garmin and Team Type 1 sit on the panel and were present and ran lab simulation. They were excellent teachers and presenters. If you're a bicycle racer, USA Cycling would be familiar as the organizing and sanctioning body for bicycle racing in the United States. MOC looks at evidence-based research and methods to treat or prevent cycling related medical problems. This year's focus covered a number of areas with experts across the nations. If you are wanting to know more, see the MOC website <http://www.medicineofcycling.com/>.

This is the first of a few articles on what I learned at MOC and I hope you find interesting and useful. I shall keep them brief and to the point and start with the least serious to the most serious injuries to follow in the coming months. Most crashes will have abrasions or lacerations. Studies at the this conference showed around 60-70% of all injuries from the skinned knee of a child to the full body road rash of the back, shoulder, hip and knee of the crit racer. "Road rash" is the common term and the most common injury, and is very painful.

Event planners such as race directors or large ride leaders can stock up their first aid kits. Clubs and race teams should keep a well-stocked first aid kit in their trailers. It's a nice service to add to a rider's membership. Also make sure they are covered under the club's or USAC insurance policy and get the paperwork filled out. It's best to buy supplies on online as the selection is greater and the cost is affordable. A formal medical plan should be part of your event to respond and treat injured cyclists.

Road Rash Treatment

This is assuming bumps and bruises with minor swelling, no fractures, lacerations or head injuries which have been well ruled out. If you have more serious injuries, road rash issues are the least of your worries. If any doubts have them driven to urgent care or activate EMS.



Paul Engler



1. Dirty wound with possible contamination? Gravel, glass, cow poop (this happened in the Dirty Kanza gravel ride this year leading to secondary infection) or wet, slippery, muddy conditions increase the risk for infections. Elbows and knees are more at risk as the organism will get inside the bursa of the joint where it can grow and is not easily washed out. Go to step 2 for a dirty wound. If NOT, skip 2. and go to step 3. Hydrogen Peroxide is very good at killing germs but it kills live tissue as well so you need to use good judgment.

For a cow poop wound while on gravel or trail, scrub the wound bed really well. Mountain Bikers get into dirt and rocks. Goose poop may be found on lake trails. With wet, slippery, or muddy pavement, a cyclist will lose traction and fall down.

2. **A.** Irrigate with normal saline or store bought bottled water. Normal saline reduces some of the sting while washing out a wound.

B. Use sterile scrub brush with hydrogen peroxide and scrub out wound and remove all foreign bodies.

Hate to say it but it's going to hurt a lot. However, a \$1500.00 day hospital bill while they treat you for infection for not cleaning out the wound properly is going to hurt more. If you cannot get all the crud out, go to the ER as they have tools such as VERSAJET hydro-surgery system which enables a surgeon to precisely select, excise and evacuate nonviable tissue, bacteria and contaminants from wounds and soft tissue injuries. Stronger anti-infectives and antibiotics can be prescribed with sedation to reduce the pain of the procedure.

4. Pat the wound dry and use triple antibiotic cream, then a non-stick bandage such as Tegaderm. This provides a good barrier and healing environment. You can buy BSN Tegaderm on the internet in rolls to place in club or first aid bags.

5. For the second layer, apply a 4x4 gauze over Tegaderm as padding and base for final compression layer.

6. Compression bandages are used to hold the bandage in place. Shoulders, elbows and knees are hard areas to hold the bandage in place. Cover-Roll® Stretch is good product to use on shoulders as well as general areas of the forearm. Coban can be used as well. These products come in rolls to be cut to length and can be kept in first aid bags. Cover-Roll® Stretch runs about \$10-\$14 dollars a roll. The sock or tube bandages are very nice too. Either place over the CoverRoll or over the gauze as shown below.

Removal is done in the shower. The bandage will fall off easier with minimal sticking to the wound causing less discomfort. Wash the wound out gently and with shower water and then allow drying and re-bandaging starting with step 4 above.

Signs of infection include increased pain with swelling redness or streaking, yellow or white drainage, or not healing. Go to urgent care or doctor for assessment. Crashing in wet conditions increase the risk for secondary infection on knees and elbows. Infection may lead to hospital admission so it's good to catch early. If you are a race or event director, send extra bandages in a plastic bag with the person to take home till they can get to the drug store or their doctor.

Contact Paul at: paul.engler@doc.ks.gov

To Learn More on Cycling Injury Treatment go to:
<http://lifebalancesports.com/tag/road-rash/>

Road Rash - What Coaches Should Know

Q and A with Paul Engler RN B.S.N.

Based on feedback what recommendations should the coach give- (considering it may be a medical referral and all that goes with it)?

On road rash a referral to urgent care clinic should be done if the wound cannot be debrided fully or at risk for infection. In other words grit and crud are in the wound and cannot be removed. Wounds left unattended for 12 hours or more increase the risk. Signs of infection such yellow drainage and swelling occurring days after the accident. Wound that not healing warm or red streak are signs of infection.



What advice do you have to the coach in returning the client back to training/competition? What are the questions to ask?

Also if joint such as wrist or elbow just is not getting better after few days it should be assessed for fracture and small bone chips cause nagging pain. Getting x-rays and casted it to avoid furthered injury as the on initial assessment may not be apparent for follow-up. People usually do not want to go to the doctor and take a wait and see approach, however its common few days later to hear the person went to get check as the pain not going away or soothing just does not feel right with their bodies.

Once the wound starts healing and the swelling reduced with no severe pain occurring in joints such as knees, hips and elbows and wrist, the coach can advise return to training. I would assume fractures have been ruled out in the initial assessment.

Are there other considerations?

I included total trauma assessment for healthcare or knowledgeable coach or first aid workers to take and can be used to give more precise information to a doctor.

Here is the Primary Assessment. Secondary Assessment will be out soon.



CYCLIST TRAMA FLOW CHECK SHEET

**FIRST AID GUIDELINES
TRAUMA - EMERGENCY**

CYCLIST NAME

DOB:

Effective Date: 4/24/15

Revision Date

Page 1 of 4

Date:

Time:

Allergies:

Circle, check, and complete all appropriate blanks

PRIMARY ASSESSMENT:

Ask cyclist permission to assess and to treat unless life threats present:

- Insure area is safe before entering.
- Remove patient from hazards, prevent further injury
- Search for immediate life threats by assessing "ABCs" (airway, breathing or circulation problems) and treat according to Basic Life Support Guidelines
- Assess Airway & stabilize C-Spine
 ___ Breathing present ___ Able to speak
- Evidence of *actual or potential* airway obstruction:
 ___ vomitus ___ bleeding ___ dentures
 ___ loose teeth ___ foreign bodies
- Assess Breathing
 ___ Difficult to speak
 ___ Note rate, depth and quality of ventilations,
 ___ Abnormal ___ noises/stridor ___ retractions,
 ___ accessory muscle use
 ___ nasal flaring ___ turning blue.

- Assess circulation:
 ___ Check Pulse ___ Rapid ___ Thready
 ___ Regular ___ Irregular ___ Bounding ___ Absent
 ___ Note condition of skin
 ___ pink ___ pale ___ cool ___ moist
 ___ capillary refill <3 seconds ___ >3 seconds
 ___ other

- If major bleeding is present, control with sterile dressing and direct pressure.
 Location of Bleeding: _____

- Any other life threatening Conditions identified? Y N

- Assess Level of Consciousness/AVPU Scale/Glasgow Coma Scale

Response	Score	"Glasgow Coma Scale" Eye Opening Rate 1 - 4
None	1	Eyes always closed; not attributable to ocular swelling
To pain	2	Eyes open in response to painful stimulus
To speech	3	Eyes open in response to speech or shout; does not imply patient obeys
Spontaneous	4	Eyes open; does not imply intact awareness

Response	Score	Motor Responses Rate 1 - 6
No response	1	No motor response to pain
Extension	2	Extension at elbow
Abnormal Flexion	3	Includes preceding extension, stereotyped flexion posture
Withdrawal	4	Normal flexor withdrawal
Localizes pain	5	Attempt to remove stimulus
Obeys commands	6	Follows simple commands

Response	Score	Verbal Responses Rate 1 - 5
No response	1	No sounds
Incomprehensible	2	Moaning, groaning, grunting
Inappropriate	3	Intelligible words, but no in a meaningful exchange; shouting, swearing
Confused	4	Responds to questions in conversational manner, but responses indicate varying degrees of disorientation and confusion
Oriented	5	Normal orientation to time, place, person appropriate conversation

Summed Glasgow Coma Scale Score = E+ M+ V
 The sum obtained in this scale is used to assess the coma and impaired consciousness:

Mild= 13 through 15 points
 Moderate= 9 through 12 points
 Severe= 3 through 8 points
 Patients with score less than 8 are in Coma

Score: _____

- Moves all extremities Y N

If no, describe: _____

