



Corner Worker Training

CORNER WORKING 101	3
<i>INTRODUCTION</i>	3
<i>COMMON JARGON</i>	4
<i>WHAT YOU REALLY NEED ON A CORNER</i>	4
<i>WHAT YOU MIGHT WANT ON A CORNER</i>	5
<i>FREQUENTLY ASKED QUESTIONS</i>	5
<i>FLAGS OVERVIEW</i>	5
<i>HAND SIGNALS</i>	7
<i>FLAGGING HELPFUL HINTS</i>	7
<i>FIRE EXTINGUISHERS</i>	7
<i>HELPFUL HINTS</i>	8
OUTPOST	9
<i>OVERVIEW</i>	9
<i>CROSSING A HOT TRACK</i>	9
<i>DIRECTING TRAFFIC</i>	10
<i>REVIEW OF HAND SIGNALS</i>	10
<i>CHECKING OUT A DOWNED BIKE</i>	10
<i>FLUID CLEAN-UP INTRODUCTION OF CLEAN UP MATERIAL AND USES:</i>	12
<i>ASSISTING WITH MECHANICALS</i>	12
<i>AFTER A CRASH</i>	13
RADIOS	14
FIRES	17
BEFORE THE AMBULANCE GETS THERE	18
ASSISTING THE AMBULANCE CREW	20
SETTING UP YOUR CORNER	21
<i>CORNER CAPTAIN CHECKLIST</i>	21
<i>INDIVIDUAL TURN SPECIFICS</i>	21
BECOMING A CAPTAIN	24
<i>WHAT TO DO WITH A BRAND NEW CORNER WORKER</i>	24
ADDITIONAL READING	25
<i>HEARING PROTECTION</i>	25
<i>CONCUSSIONS BY JEANNIE DALMAS</i>	26
<i>WATER - STAYING HYDRATED BY JEANNIE DALMAS</i>	28
<i>BUMPS, BRUISES, STRAINS, & SPRAINS BY JEANNIE DALMAS</i>	29
<i>SLIP, SLAP, SLOP BY JEANNIE DALMAS</i>	31
<i>IT'S NOT JUST THE HEAT, IT'S THE HUMIDITY BY JEANNIE DALMAS</i>	32
<i>MEDICAL ADVICE FOR TRAVELERS (TO CORNERS AT RACETRACKS) BY HARDY KORNFELD</i>	34

CORNER WORKING 101

INTRODUCTION

Corner workers are responsible for maintaining the racetrack in a safe operating condition. When track conditions change, workers must inform the riders of the problem by the use of flags and hand signals. Workers aid fallen riders and clean the track of debris, oil and motorcycles. The main requirements are common sense and patience. Safety is the concern of everyone involved at every level of the sport. Your safety as a corner worker is of primary importance, as you cannot keep the racetrack as safe as possible if you do not use safe practices yourself!

Each corner or turn on the racetrack is staffed with a team of people filling various roles. Each corner crew will have a Captain, Radio Communicator, Flagger, and one or more Outpost people. Some of these jobs may be combined as necessary.

- Corner Captain - The person responsible for the operation of the corner. Ensures correct placement of equipment and workers; trains inexperienced workers; oversees the safety of workers, competitors, and others in the corner.
- Radio Communicator - Keeps the Captain and Control aware of changes in track conditions and calls for assistance when required. In the absence of a specific person to serve as the Communicator, the Captain will assume this role.
- Flagger - The flagger serves as the competitors' eyes into each turn on the racetrack, warning riders of hazardous situations by displaying signal flags.
- Outpost - The Outpost person is stationed in impact areas, generally downstream of the flagging position. Primary responsibilities are to help maintain a clear course, assist fallen riders, and move riders and motorcycles to safer positions.

ALWAYS KEEP AN EYE ON ONCOMING TRAFFIC WHEN OUT ON THE COURSE! Always have an escape route in mind when you are near traffic or on the course. ***Do not stay in unsafe areas.*** If you do not feel comfortable doing something, do not do it. No matter what job you are performing, your own safety is your number one priority.

COMMON JARGON

Entrance, Apex, Exit	Areas of a turn – Beginning, Middle, End
Braking Zone	Typically the entrance to a turn, where riders get on the brakes.
Crash Zone	Typically just after the braking zone, where riders realize they are not going to make it thru the turn successfully. ANYWHERE a bike lands no matter how strange the incident was is a crash zone. That's how one rider got there, others may follow.
Hot/Green/Live Track	A race track with motorcycles on it.
Hot Pit/Cold Pit	The section between the pedestrian walkway and the front straight is Pit Road. If it is a race with allowed pit stops – that makes it a HOT pit. No planned pit stops is a COLD pit. A Hot pit should be treated like a HOT track.
High Side	A type of crash where the rider is thrown off the side of the motorcycle opposite the direction it was leaning. Typically a more serious crash with greater potential for damage to rider and bike.
Low Side	A type of crash where the rider just seems to fall over and slide off. Usually minimal damage to rider and bike.
Tank slapper	An incident where the rider loses steering ability of his motorcycle and the handlebars wildly go back and forth, the rider will look like he is slapping his gas tank with his handlebars. Typically precedes a high side.
Track Snake	A motorcycle chain. When you find one, let the turn before you know as they will most likely have a chain master link somewhere between them and you.
Asleep, Napping, A Sleeper	These are generally terms used to describe an unconscious rider. This is indicative of a concussion. Report anyone you think was unconscious (even for just 10 seconds) to the medical personnel- never via radio!
Rung Bell	Another term for someone who has a high possibility of a concussion. If someone hits their head, but doesn't lose consciousness, he is said to have rung his bell.

WHAT YOU REALLY NEED ON A CORNER

- NO red or yellow outer clothing (a rider might mistake you for a caution flag).
- Wear sturdy, comfortable footwear. Wear a hat or visor. Use hearing protection.
- Dress in layers. Prepare for temperatures from 30 degrees to 100 degrees, rain or shine. Layers will help you keep warmer in cool weather.
- Try for natural fibers like cotton, as synthetics may burn or melt if you touch something to hot.
- Protect yourself from wind and sun.
- Rain gear
- Drinks, especially non-caffeine beverages
- Extra clothing – windbreaker, sweatshirt, t-shirt
- **Awareness that when an incident occurs in your corner, you will be flooded with adrenaline – use this to become extra alert and careful about oncoming traffic and getting the track cleared as quickly and safely as possible.**

WHAT YOU MIGHT WANT ON A CORNER

- Although any color **except red** or **yellow** is okay, WHITE clothing is preferred.
- Long pants – even in very hot temperatures to help prevent sunburn and burns from hot motorcycle parts. Shorts discouraged.
- Whistle
- Sunglasses
- Sunscreen
- Lip balm
- Stopwatch
- Hearing protection (ear plugs or earmuffs)
- Mechanic's gloves
- Hat, visor or bandanna
- Insect repellent
- Pocket knife
- Towel
- Small first aid kit (personal use)
- Hand-held scanner radio
- Knapsack to keep it all in

FREQUENTLY ASKED QUESTIONS

What are the benefits to corner working?

- Meet others interested in racing and motorcycling
- Learn about road racing firsthand
- Earn admission to the track
- Lunch is provided
- Year-end awards for your continued efforts
- The best rewards are helping road racing grow, enjoying the best seat in the house, and being part of the action.
- Have Fun

Who can become a corner worker?

Anyone over the age of 18 who likes motorcycles and wants to get involved can come join us!

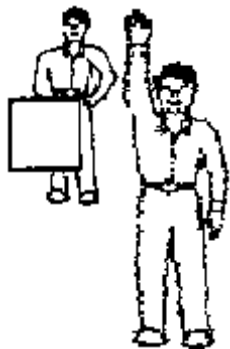
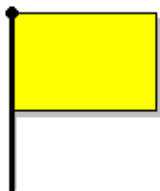
How much of a commitment do I need to make?

That's entirely up to you. Whether you can volunteer one day or twenty, you're welcome to join our team. You can let us know ahead of time or just show up at 7:30 AM on any race day, and we'll welcome you!

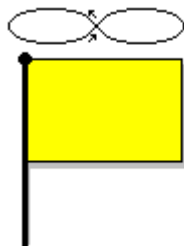
FLAGS OVERVIEW

Flagging is the most important function on the corner - it demands the most attention, and is also the easiest to learn. The flagger must ALWAYS stay at the flagging station while motorcycles are on the racetrack. The yellow flag should be held, ready to be displayed, but hidden from the view of the oncoming riders. The remaining flags should be unfurled on the ground or nearby in the display area, ready to be picked up quickly.

Stationary flags are held at chest level and waving flags are waved in a large figure - eight motions from the shoulder, while facing oncoming traffic.



A YELLOW FLAG held STATIONARY means something or someone is at the edge of the track. It may also be used to indicate that there is a waving yellow flag at the next turn. The most common use for this flag is a mechanical.



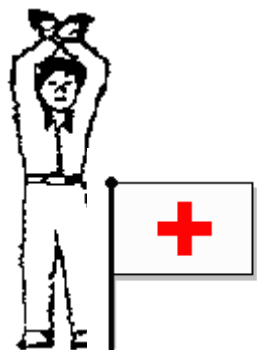
YELLOW FLAG WAVING means the track is partially blocked by an obstacle whether people, an ambulance, motorcycle(s) or debris from a crash, oil, or combination of these. Riders are not allowed to pass each other from the point at which they receive the flag until they are past the incident.



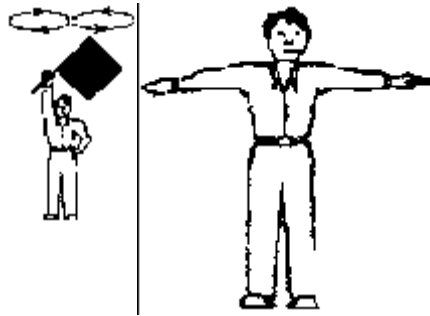
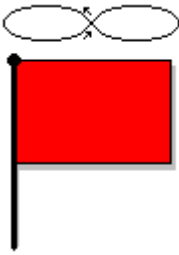
The OIL FLAG or DEBRIS FLAG (Yellow with Red Stripes) is **always** held stationary and is used to indicate oil, fuel, water or other debris on the track surface. In the case of rain, the flagger may hold the flag and point skyward.



Occasionally you will need to display 3 flags.



The AMBULANCE FLAG (white with red cross), **always** held stationary, is used to show that the ambulance is on the track. The WAVING YELLOW flag is used WITH the AMBULANCE FLAG **at the turn the ambulance is in**. A STATIONARY YELLOW flag is used WITH the AMBULANCE FLAG at the **turn BEFORE the turn the ambulance is in**, and TWO TURNS before the turn the ambulance is in will display only the ambulance flag.



The RED FLAG means that the session or race is stopped and is used when the track is blocked or emergency workers cannot safely assist a rider. The person who holds this flag must have a radio because it must be displayed at all stations at the same time. You should **never** wave the red flag, no matter how serious you think the incident is, **until Race Control has called for the red flag**. Race Control will clearly

say "RED FLAG ALL STATIONS, RED FLAG ALL STATIONS, RED FLAG ALL STATIONS." As soon as you hear it once, you should be on the ready and then start waving the RED FLAG as soon as possible. If the incident is in your turn and/or you are already waving the yellow flag, continue to wave the yellow in one hand and the red in the other.

HAND SIGNALS

HAND SIGNALS are used to communicate between workers as to which flags are to be displayed or taken in or can be used to communicate numbers from worker to worker when it is necessary to overcome noise or distance factors.

- Stationary Yellow – one arm straight up over the head
- Waving Yellow – one arm waving, repeated until Flagger starts waving the yellow.
- Oil/Debris – one arm making a circular motion about waist level or lower. (Just like "Sand the Floor" from Karate Kid or "cleaning up")
- Ambulance – both arms straight over head, crossed at wrists
- Red – both arms straight out from shoulder.
- Cut or Drop the flag – is one arm coming across the neck area from the far side to the near side. If you only want one of the flags to be cut, this motion will be followed with the hand signal for the specific flag. If it is just a cut only, that typically means any and all flags.
- Directing Traffic – push bikes where you want them to go, never pull them towards you.
- Fire - Hold arms to one side, forming the letter "F" to indicate you have a fire and need a fire vehicle or fire bottles.
- I Need Help - Tap on your head to indicate you need assistance.

FLAGGING HELPFUL HINTS

- Putting meaning behind the flag waving, intense waving can attract attention more readily than a slow, lazy wave.
- When doing the standing yellow flag for the first lap of practice sessions, make note of the first rider number to your flag position. When you see that rider come around again you may drop the standing yellow.

FIRE EXTINGUISHERS

- There will be a fire extinguisher on every turn, even if a turn is not staffed. When you get out to a corner, look around and locate where it is should you need it. In the event of a fire, you will follow the PASS method – Pull, Aim, Squeeze, Sweep.

- With the wind at your back, Pull the pin, Aim the hose or nozzle at the **base** of the fire, Squeeze the handle and Sweep back and forth. You should be approximately 6 to 8 feet away while trying to extinguish a fire.
- Be sure to put the **rider out first**, then the bike. Always call for an ambulance if a rider has been on fire.

HELPFUL HINTS

- Corner worker sign up is from 7:30 AM to 8:00 AM Saturday and Sunday in the Scales Garage at New Hampshire Motor Speedway. First practice is at 8:05 AM. If you want to sign up after 8:00 AM, then you can either go to the Scales Garage and call Race Control on the telephone or ask anyone near the Scales Garage with a radio to call Race Control for you. It is preferable to sign up workers after the start of practice over the telephone and not tie up the radio. Race Control will accept volunteers until the last race.
- If you are a rider/worker please inform Race Control of your practice session and races that you will be in. Also, a reminder by radio before you leave your turn is very helpful.
- If you have a favorite turn or a least favorite turn you may also request that be taken into consideration when corner workers are being assigned.
- If something happens and you can no longer work (i.e. your rider crashes and you have to leave) please inform your corner captain immediately.
- Becoming a captain does not mean you have to work all day every day. You can still be a rider/worker or only work a half-day if that is all you can do. Please do not feel that becoming a captain obligates you to spending more time on the corner. It means that you have more training and experience and that we can pair you up with less experienced people.
- Drink plenty of water.
- Use a whistle to attract attention when necessary.

The U.S. Marshalls offer a crisis management/coping network. This is a network of mental health professionals either available to come to the track or to speak with race workers over the phone to assist with the mental stress that arises should you be involved with a serious incident.

OUTPOST

OVERVIEW

Top priority for the outpost worker(s) is picking a safe place to stay that allows you to be near the crash zone without either being in the crash zone or having to cross the track to get to it. Next, it is important to stay in this safe location until all the action of an incident has stopped. This will prevent you from being a part of the incident.

The first few seconds after a crash are used to begin your assessment of the situation and to think what you need to do: signal for the appropriate yellow flag, debris flag if necessary, get to a position to ascertain if the rider needs medical help, as traffic allows, move the fallen rider(s) and motorcycle(s) off the track.

People who are learning this position do so by observing more experienced people in action and by conversing with them before going out in traffic on their own. Always keep an eye on traffic! NEVER do anything you do not feel comfortable doing!

The main job, when not assisting a crash or cleanup, is scrutinizing the bikes and riders for potential problems, such as:

- Loose parts on the motorcycles
- Improper rider protective clothing
- Dripping fluids
- Smoke from engine cases, smoke from the exhaust on acceleration, smoke or water vapor from the engine breather, etc.

You must also monitor the track surface for fluid spills, motorcycle parts and any other debris.

These skills come with time and practice. Directing riders whose motorcycles have broken to a safe area is also the responsibility of the person(s) in the outpost position.

While assisting with a crash or clean up, use hand signals to push the riders to one side to control traffic. Also, you will sometimes be directing traffic away from a fallen rider. (See "Directing Traffic" below) When this happens, and an ambulance is in route – keep in mind that the ambulance personnel will most likely want to park exactly where you are standing so that they can use the ambulance to shield the injured rider and themselves from oncoming traffic, allowing them to worry only about their job. As the ambulance approaches simply take several steps back and vacate the spot.

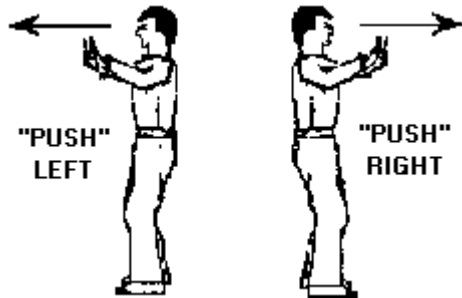
CROSSING A HOT TRACK

If you must cross a hot track either by yourself or pushing a motorcycle, first notify Race Control of your need. Race Control will then communicate when there is a large enough break in traffic for you to safely cross the track. Also alert your flag person as to your intent, whistle to get his/her attention, requesting a stationary yellow flag while you are on the edge of the track. This flag should change to a waving yellow while you are actually crossing the track if there is any traffic coming.

When you request a break in traffic, Race Control will tell you to get ready. You should then move yourself and the motorcycle as close to the edge as possible. The motorcycle

should be easy to roll, already in neutral and not dripping any fluid. Regardless of rider insistence, never push a leaking motorcycle across a green track. Also look up track when crossing or entering onto a hot track. Race Control will give you a break whenever possible. However, at some racetracks, lack of visibility of the area by Race Control does not allow for this.

DIRECTING TRAFFIC



When there are enough Outpost people on a turn, one job is directing traffic. This position should be between the flagger and the incident. Face the direction that you want the traffic to go and with a pushing motion – signal the riders to shift their lines to the inside or outside of the turn. This motion should always be a pushing motion, never a pulling motion.

Traffic should be directed to whichever side is safer, or less blocked. If it is not possible to direct traffic to the opposite side from which the outpost people need to cross, then it may be a red flag situation. Your corner captain will make this call.

You may also need to direct traffic away from a clean up effort on the edge or if workers are crossing thru a crash zone to return to the normal outpost position after clearing an incident.

REVIEW OF HAND SIGNALS

The hand signals are as follows:

- Stationary Yellow – one arm straight up over the head
- Waving Yellow – one arm straight going up from side to beside head and down again. Repeated until Flagger starts waving the yellow.
- Oil/Debris – one arm making a circular motion about waist level or lower. (Just like “Sand the Floor” from Karate Kid or “cleaning up”)
- Ambulance – both arms straight over head, crossed at wrists
- Red – both arms straight out from shoulder.
- Cut or Drop the flag – is one arm coming across the neck area from the far side to the near side. If you only want one of the flags to be cut, this motion will be followed with the hand signal for the specific flag. If it is just a cut, that typically means any and all flags.

CHECKING OUT A DOWNED BIKE

When picking up a motorcycle that has just crashed in your turn, be sure to use proper body mechanics (lifting with your legs) to lift the bike. NEVER turn your back on traffic. If the position of the bike requires you to turn your back to traffic, you should make sure there is another person there to watch up track for you or position yourself to be 90 degrees to the bike and on coming traffic. Always know where you will be pushing the bike to BEFORE you pick it up. If the rider is able to assist you, tell him/her where you want the bike to go.

The first thing you should do is hit the kill switch, or turn the key off. This will prevent the rear wheel from spinning should the engine still be running, as well as de-energize any circuits that could potentially cause fire. The next item to check for is leaking fluids – is there a puddle of fluid right where the bike is lying? The last item that will become very obvious, very quickly is, will the bike roll?

As soon as you are off the track ask the rider if s/he plans to re-enter. If so, you need to look over the entire motorcycle. The rider should not be allowed to leave the turn until a worker says they are safe to re-enter. Be sure to ask the rider any questions necessary. The rider should be looking over the motorcycle with you. This should be done as quickly as possible, however, being thorough is more important. If the rider insists that the motorcycle is safe to re-enter, but you have any questions either signal for your corner captain or ask Race Control over the radio.

If you find any of the following things, the bike is not safe to re-enter - check for:

- Leaking fluids
- On exhaust system and/or rear tire
- From Catch bottle
- From Radiator
- From Gas tank
- From Case covers – especially clutch side.
- On rear tire
- Front brake operation- because the lever is there doesn't mean the brake works
- Rear brake operation
- Shift lever
- Chain – usually when the chain comes off, the rider knows, but not always.
- Full steering- lock to lock

Recheck for fluids when motor is running, as fluids may not leak until the motor is pumping oil and water.

IF you find any of the following, the bike is OK – however the rider should be aware:

- If the fluid is just there, but not leaking: Wipe it away and allow re-entry.
- Loose parts that could come off. If they can be removed and not compromise safety, remove them and allow the rider to re-enter.
- Broken Clutch lever. A rider may continue, as it is possible to shift without a clutch.
- Transponder attached? If not, call it in so scoring can figure it out, not a reason to prevent re-entry

You also need to make sure the rider is okay physically and mentally to continue.

Physically: You need to look over the rider to make sure there are no tears/holes in the leathers, gloves or boots. Also make sure the helmet has not been damaged. If there are any marks on the helmet, question the rider as to how they happened (they may have been there from a previous get-off).

Mentally: If a rider seems agitated, disoriented, or unsettled in any way do not let them back on the track. You may want or need to recheck a rider after a few minutes, the extra time may have allowed them to regain a clear head and they may become okay to re-enter or re-mount the motorcycle to ride back to the pits.

FLUID CLEAN-UP INTRODUCTION OF CLEAN UP MATERIAL AND USES:

Material	How to Use	Use For	Don't Use For
<i>Diaper</i>	Blot area and remove, never scrub	Puddle of oil, gasoline, brake fluid	Other fluids
<i>Fluffy Stuff</i>	Scuff in with broom	Small spill or wet conditions	Windy conditions
100/200+ ATTAPULGITE.	Light dusting in a bowling motion	Sprays and after Diapers and Fluffy Stuff	Wet conditions

Rapid fluid cleanup and traction restoration is the goal here. Fluid comes in different types and amounts, from tiny "nickel and dime" sized spots to a fine spray to a few quarts and in the case of gasoline, gallons.

Primary prevention is noticing bikes that are leaking or smoking from the engine area or smoking on acceleration from the exhaust. This will keep some of the mess off the track.

There are a number of oil cleanup products available and each is suited for different types of spills.

For major spills, nothing can beat "diapers". These absorbent pads can easily be tucked into your belt so they will be handy to throw down on a spill. Each pad can hold up to two quarts of oil and will pick up oil out of water. Always "blot", never "scrub" with the diapers.

After the diaper has absorbed as much as possible, and for other thick spills, the gray colored "fluffy stuff" works very well. This is another substance that picks up oil in preference to water. Because of its light and fluffy texture it must be put down close to the track surface and worked in with a broom.

Most oil spills will fall into the small drip or fine spray categories. These types of spills are handled with the tan-colored 100/200+ ATTAPULGITE. This is a fine grade of the substance known to most of us as "kitty litter" and looks like flour.

Since Attapulgitite is very absorbent (a little goes a long way- more is not necessarily better) it is better to dust a large area lightly than to spend a long time sweeping up excess. Spreading a handful in a bowling motion is most effective. After a large spill where diapers and fluffy stuff have been used, a fine dusting of Attapulgitite will finish the job and restore traction. Attapulgitite is never to be used on a wet surface!

ASSISTING WITH MECHANICALS

The outpost person may be asked by a rider to assist him/her with adjustment during a race or practice. The worker is allowed to assist a rider in any way they can. The worker's own mechanical knowledge and/or tools available would be the only limit to

assisting a rider. However, workers are not expected to be mechanics, do not let your mechanical inability deter you from filling an outpost position.

Some things helpful to know are: the ability to tell a 2 stroke from a 4 stroke engine motorcycle, if a bike is steaming or smoking during acceleration or deceleration and if something is coming loose that should not be. An example would be: 2 strokes generally smoke when they are cold- during the first lap or so on the track; knowing this and how to tell the difference will stop you from calling in those bikes for smoke. Understanding potential problems is very important as the other workers will be alerted to find and follow these bikes to monitor them and possibly black flag them for safety concerns. It is much better to spot a rider and black flag him BEFORE s/he causes an incident.

These skills are generally only learned through time and experience. You are not required to be able to tell when a bike is breaking – it is simply helpful. Over time, with practice, you will start to recognize problems with the motorcycles and see how this skill contributes to safety.

AFTER A CRASH

First thing to be sure of- proper flags are displayed. Have communications with the flagger established so that there is no doubt on the part of the flagger what flags should be displayed and when. Hand signaling is the basic way to communicate as we cannot always depend on radio communication to be an acceptable way to convey what a corner needs for flags at any particular time. **ONLY ONE PERSON CAN TRANSMIT ON THE RADIOS AT A TIME.** Radio airtime being spent to continually instruct a flagger during an incident could interrupt radio messages of a higher priority such as another corner needing to have the race or practiced stopped.

Next- the first responder to the crash needs to establish whether or not the rider(s) needs ambulance attention. Even if the rider is up walking and talking, continue to observe them for signs that they are more injured than is readily apparent. Do not hesitate to call for the ambulance if there is any doubt.

After the rider condition is established, pick up the motorcycle calling for help from other workers if necessary. **ALWAYS WATCH ON-COMING TRAFFIC WHILE DOING SO.** Immediately notice if there is any fluid leaking from the motorcycle. Try to determine if any leaking fluid is oil, gasoline, water or perhaps battery acid. **NO SMOKING!** Be careful of battery acid as it will eat through clothes and burn the skin, perhaps without immediate pain or discomfort. If you get any on yourself, be sure to immediately seek to have the affected area attended to - call for the ambulance. Fortunately, battery acid spills are rare.

If the motorcycle is leaking, try to dam up the leak with one of the "diapers" provided with the clean up materials at each turn. Move the motorcycle and ambulatory riders to the area established as the "safe" location of the turn. If the motorcycle's clutch lever was not damaged or broken off from the crash, use it to allow the motorcycle to be rolled. Do not spend time in a more dangerous location of the turn trying to shift the motorcycle to neutral before pushing it out of the crash zone. The less time spent in the crash zone the better. Check that the motorcycle has a working brake, either front or rear, that can be used should you be pushing it on an incline. Be aware that, occasionally, a motorcycle that has slid a long way can have handlebars or other parts that are so hot to the touch from the friction of sliding that they can burn the skin. Wear gloves.

If the motorcycle and rider are so lightly damaged from the crash that the rider wants to return to the race or practice, establish the following BEFORE LETTING THEM LEAVE:

No leaks of fluids of any kind.

At least one of the motorcycle's brakes are operational- be sure to point out to the rider that one or both may not be working.

No crash damaged loose parts are about to fall off the motorcycle.

After the engine is started, before letting the rider leave, be sure no fluid leaks occur with the engine running.

If all these conditions are not met, DEMAND that the rider not re-enter. If they ignore you, be sure to report it to Race Control immediately.

RADIOS

This requires those corner workers that are handling the radio communication

The primary thing to remember when communicating using a two-way radio is

ONLY ONE PERSON CAN TRANSMIT ON THE RADIOS AT A TIME



Photo courtesy Brett DeMello

in each corner to be paying attention to radio traffic at all times so that information essential for safe, efficient operations is received in a timely manner. This practice also puts the communicator "in the rhythm" of the radio routines, making it less likely that one will transmit "on top of" or "step on" another's transmission. Listen to the radio traffic before transmitting, you should not simply start transmitting without listening for a few seconds before. You may not be heard as you may be transmitting on top of another, already in progress, conversation. Get into "the rhythm".

The US Marshalls' radio frequency is currently **154.570 Mhz**. Any commercially available scanner can pick up this frequency. We recommend for anyone who wants to hear what is going on around the racetrack to purchase a scanner.

General Guidelines

- NEVER USE THE WORD "RED" ON THE RADIO! Use "crimson" instead.
- Be clear, concise and calm! Talk in a normal voice, giving complete details in one short communication. Try to think of the shortest, most concise way to convey the information you want to communicate. Go over what you NEED to say in your mind before transmitting. The least time spent using the radio airtime is best. Think about what really NEEDS to be said in the context of what is happening. Do not run and talk or scream into the radio, as that makes it harder to understand.
- No talking during race starts and ambulance movements unless you need to have the race or practice stopped. As soon as an ambulance is put on alert, only emergency calls should be made.

- When conditions demand that the race or practice be stopped, Race Control must broadcast this to all stations as quickly as possible. Because only one transmission can happen at a time, requests to stop should initially be accompanied by as short and concise a reason as possible - it is not necessary to give all details prior to requesting Race Control to broadcast the command for stopping. Do not request a RED flag, say that "we need to stop."
- Push the button before you start talking. There is a slight delay in transmission. If you start to talk while you are pushing the button, the beginning few syllables of your transmission will not be heard.
- Always identify the turn number from which you are transmitting at least on the initial call. "Turn 3 to Control" means that Turn 3 is attempting to initiate a conversation with Race Control. When you hear, "Control to Turn x", then Control is trying to initiate a communication with that turn.
- Report numbers using single digits (e.g., "one-zero," not "ten").
- Think about the priority of the information you want to transmit. A pass on the waving yellow flag has a lower priority to report than a crash incident report- write down the pass on the waving yellow information and wait until the higher priority communications are finished.
- Handle all radios and scanners with care. Make sure radios are turned on and headsets are tested before leaving to go out onto the racetrack. Keep radio equipment dry at all times. DO NOT put the radio in a pocket or other place on your person such that the transmit button has a chance to be inadvertently pressed. This is a dangerous practice as a transmitting radio does not receive so you will not hear that your unit is stuck in transmit mode and your stuck transmission will prevent other, possibly emergency, transmissions from going through.
- The only sure way to be able to hear transmissions on a noisy racetrack is with an earplug type earphone or the type of earphones that have an ear cup that completely covers an entire ear. Walkman style earphones may work okay but in the noisiest conditions you will still miss some communications. Inexpensive (\$15 or less) personal earplug type earphones comfortably fit in your ear and make hearing all communications nearly flawless in the noisiest conditions.
- Watch your language; you never know who is listening.

What Race Control needs to know:

- Rider Down: location of rider, condition of rider: "Rider is Up / Checking / Need ambulance" (never anything more detailed).
- Requesting an Ambulance: Race Control needs to know where the ambulance is needed (Restate your turn number followed by Riders right/left, Entrance/Apex/Exit). For example: Turn 3, Riders left, exit of the turn.
- Mechanicals: location of rider, when/if rider re-enters
- Requesting a break in traffic: If you need to cross the track, or push a bike across the track you may ask Race Control to give you a break. Race Control will need to know if you are in the entrance, apex, exit and what you need to do. Do you need to kick something off the line, cross a bike or just get back across to your position? This is critical to assist in gauging the size of the gap. At New Hampshire Motor Speedway, sometimes it is best for Turn 5 to give a break to workers in Turn 6 as most of Turn 6 is blind to Control.
- Moto-crossers/cutting the racecourse... ONLY if the rider does something that the workers disapprove of, not heeding workers when re-entering, causing or almost causing an incident with another rider or gaining an advantage in track position during a race.

- 10-100s: Everyone needs a personal break now and again. If you are alone on a turn, just notify Race Control that you will be incommunicado for short while. These breaks are commonly called 10-100s. You should also notify Race Control when you are back on station and ready to go. These breaks need to be coordinated during cool-off/warm up laps of races, between practice sessions or during a red flag to prevent down time on the track.
- Riders exiting the track thru a gate (Pit/Paddock)
- Find and Follows: If the Starter needs to find a motorcycle for any reason or if a worker spots an issue with a motorcycle that should be monitored and/or confirmed, Race Control will request all corners to assist by requesting "Please find and follow bike number xxx for..." and will state the purpose of the find and follow. It is very helpful for someone to give a quick description of the bike (color of bike/helmet/leathers) as well as if the rider is all alone or at the front, middle or back of a pack. Not every turn needs to give this information, it generally only needs to be given once. Each following turn can then state "(rider number) xxx through turn x" as that rider passes. If the rider is needed for a meatball or black flag then the turn prior to the station giving the flag should try to recap the description as the bike goes thru their turn to help the flagger get the right rider. Once a situation has been resolved (either the rider is off the track or deemed okay) then the calling out of when that rider is in your turn is no longer needed.

Other things that may be relayed to Race Control over the radio would be the presence spectators in areas where they should not be, children where they should not be and/or dogs not on leashes.

Something that you may want to say over the radio, but never should, would be a rider's injuries and a detailed description of the incident, especially if serious injuries are involved. The radio frequency is monitored by many people in the pits/paddock so sensitive communications should take into consideration that it is a public means of communication and delicate matters should be kept off the airwaves. The Ambulance Crew has means to contact Race Control off the air and will do so to notify Race Control of any information relevant as soon as the immediate medical needs are addressed. Only the ambulance crew should report details on injuries directly to Race Control.

FIRES

A fire is an automatic RED FLAG situation. Simply call in to Control, "Fire! Turn (#)."

When equipment for each turn is placed, corner workers must plan where to place the fire extinguishers so that one will be readily available when needed. An average fire extinguisher weighs upwards of 20 lbs., you will not want to run far carrying it – keep this in mind when determining its location.

When using a fire extinguisher, move around the fire until the **wind is at your back**. Pull the pin from the extinguisher and squeeze the handles, aiming the spray at the **BASE** of the flame. Sweep back and forth, covering the flames.

You will want to stand back about 6 – 8 feet from the fire to be most effective.

Always put out any flame on or near the RIDER FIRST! The first 30 to 60 seconds is the critical time when fighting fires, so have that extinguisher handy! Be sure to watch for any re-ignition after the fire has been (apparently) put out.

If anything else, (such as air fences, hay bales or tires), is on fire, notify Race Control immediately and additional fire fighting support will be directed to your station.

BEFORE THE AMBULANCE GETS THERE

by Karen Hornbecker, RN (and Racer)

In the event of an accident, the first thing the workers must do is display the appropriate flag(s) and direct traffic away from the incident. The person at the scene will signal the flagger as to what flags are needed.

For a short time, the corner workers are responsible for the care of the injured rider – until the ambulance arrives. Every attempt should be made to have at least one EMT assigned to each turn.

WHAT TO DO IF A RIDER IS INJURED: DO NOT PANIC!!

As you approach the rider: look – is he moving? If so, you can relax a bit knowing he's conscious and breathing. Upon arrival, the very first thing you must do is confirm that he's breathing. Everything else is secondary! Lift the face shield, loosen the chin strap (cut if necessary), and speak to him. If he answers – he's conscious and breathing. If necessary, put your hand or face near the nose and mouth to feel air movement. If none, the airway may be blocked due to his position. Get him on his back and carefully lift the lower jaw and tilt the head back slightly while applying slight traction.

Since every unconscious rider is considered to have neck and/or back injury, great care must be taken when moving to further prevent injury. At least 3 people should be used to turn. One to stabilize and maintain slight traction on the head, which is done by placing the hands on the bony portion of the lower jaw and the base of the skull in the back of the head. This traction should be maintained at all times. The other people will simultaneously place their hands under the rider's body and (when the person at the head is ready), will roll him as a unit to his back while being careful not to twist him. This is known as logrolling. The helmet should be removed only by those who have been trained to do so properly. By now ambulance and medical personnel should be at the scene to take over.

The next priority is bleeding – unzip the leathers as much as possible and check carefully. Usually because of the protective clothing severe bleeding doesn't occur. However, if there is profuse bleeding, cover the area with something (preferably semi-clean at least) and apply direct pressure. Elevate the area if possible. Don't be timid – severe bleeding must be controlled. Maintain good pressure until instructed otherwise or it stops. Bruises and scrapes ("road rash") are common and can be cared for at the Infield Medical Center.

If the rider has sand in his face, tell him to keep his eyes shut until you clean his face by pouring water over and gently wiping his eyelids.

If the rider is complaining of severe pain or inability to move, keep him still and protected until the ambulance arrives.

Always try to give medical personnel a report of what happened and how the rider has been acting.

There will be times when a rider will stand up immediately and appear to be fine. Don't leave him alone! Guide him with your hand to a safe place and make him sit down! Often a rider might have a slight concussion but is so excited from the accident ("adrenalin rush") that he doesn't realize right away that he's injured. He may be slightly disoriented and do really dumb things – like try to run into traffic or pick up his bike and ride off only to fall over a few moments later. Ask him his name and talk to him for a few minutes.

Above all, don't leave him alone or let him ride his bike until or unless you are certain both he and his bike are all right. This may prevent further injury to himself and other riders.

Suggest to all riders who crash that they stop at the aid station for a check-up. Remember, all these actions must be carried out in a calm, deliberate manner. A person who is in a state of panic cannot think clearly. It is very

frightening to an injured person to have those attending him appear upset. Avoid necessary conversation and statements like – “He’s hurt real bad” or expressions of horror. Remember, even unconscious people can hear.

Always talk to the rider – tell him what you’re doing to him and reassure him that you’re helping him. This may help him to cooperate with you as well as alleviate some of his fears.

A rider who has a head injury may suddenly become combative and try to fight with you and be very unreasonable. Protect yourself and him from injury and be aware that he really doesn’t know what he’s doing and most likely won’t remember the whole incident later.

Be comforted by the fact that the ambulance and medical personnel will arrive in a matter of minutes, so keep your cool. You can be nervous and panicky when it’s all over.

When the ambulance arrives, make sure that everyone is protected from oncoming traffic (unless it has been a red flag situation). Collect all the rider’s gear, i.e. gloves, glasses, earplugs, helmet, boots, and send them with the ambulance. Keep a radio handy in case more equipment or assistance is needed. In addition, give Control periodic updates on the situation.

If the rider is only complaining of minor injuries, assist him to an ambulance if one is in your turn or have him sit and wait until the session is over and then have him ride in with the ambulance or on his own.

It is always a dangerous situation for the ambulance to be on the track, so all unnecessary calls should be avoided!! However, if you have any doubts, it is better to be safe than sorry – call for the ambulance. The more experienced people should decide.

The majority of crashes result in minor or no injuries at all. Life threatening injuries are rare, but they do occur. Some people truly cannot function in traumatic situation – this is nothing to be ashamed of. If you feel that you are one of these people that do not hesitate to ask the person doing the assignments to place you in a low risk position. There is no need to be embarrassed or to force yourself into uncomfortable situations.

To summarize:

1. Do not Panic – Stay Calm!!
2. Check for breathing/consciousness and perform necessary procedures
3. Check for bleeding and control if profuse
4. Protect the rider from further injury by being aware of:
 - a. Possible neck/back injury (handle properly)
 - b. Head injury
5. Report findings and actions taken to the appropriated medical personnel.

Above all – DO NOT PANIC!!

WHO WAS KAREN HORNBECKER? <http://www.lrrsracing.com/2006/karenhornbecker.pdf>

ASSISTING THE AMBULANCE CREW

There will be times when the Ambulance crew needs another hand. Generally, they will turn to the corner captains for assistance. Sometimes they just need a hand and will go for the first one they see. If this is the case, take a deep breath, remain calm and simply follow the exact instructions you will be given. At no point will it be assumed that you have any medical knowledge. Instructions will be given in simple English, not in medical terms.

The most common thing an **Emergency Medical Technician** will ask is for you to get something from the truck (ambulance). They will describe what they need and exactly where it is in the truck. Make sure that all the rider's belongings go with the rider – especially the helmet, gloves, and glasses.

The next most common way to help is with crowd control. Most times, this is not an issue however should spectators, photographers, friends or family come out on the track to “help” it is the best help to direct them back to the other side of the fence. In the case of severe injuries, a worker may stay with a friend or family member out of the way and to help explain what is going on. Often times, it is best to direct these people to the Infield Medical Center.

On occasion you may need to assist the EMTs with privacy blankets. From time to time the leathers of the rider need to be cut off, and not all riders have a layer of clothing underneath or that layer needs to be cut off as well. Typically one or two workers simply hold up a sheet to shield the rider from spectators to maintain modesty until s/he can be properly covered.

If you are properly trained in helmet removal, CPR, or any other emergency first aid course you may use your knowledge to assist an injured rider to the best of your ability prior to the ambulance arriving.

DO NOT ATTEMPT helmet removal unless under direct supervision of an Ambulance EMT. EMTs at other tracks may be trained to transport motorcycle riders to the hospital without removing the helmet. They will not assist you in helmet removal and will prevent you from doing it yourself.

Do not assume EMTs will ask for or require your assistance. Do only as you are asked.

SETTING UP YOUR CORNER

When you first get to a corner, you need to survey the entire turn. If it is a familiar track, it may seem second nature to “know” where everything should be and why. Upon arrival, the corner captain should assess the turn. Determine the entrance, apex, and exit of the turn then determine the most likely crash zone(s). Outpost workers should be as close to the crash zone as possible without being in it and not having to cross the track to get to it. The flagger should be situated at the entrance in the line of sight of the riders and up track from where an entrance crash would most likely occur.

There will be barriers (air fence, tires or sometimes hay bales) along the walls or at the end of the run off area. These are to protect workers and provide a softer impact for bikes and riders. The location and set up of these barriers should be committed to memory when you first arrive at your turn. Then during the day, if an incident upsets these barriers you can easily return them to their proper place. If you are not familiar with how any of the devices or barriers work on your turn, ask the corner captain for more information. If you feel that something should be changed, discuss this with your corner captain and they will assess the situation and escalate it if necessary in order to make the change – do not simply rearrange the protective barriers.

The only way to get good at setting up a turn is practice. If you only work one track and usually the same turn, ask for different turn or the next time you’re out there, mentally reverse the corner and see if you would “know” where to put everything and why. Another place to get practice is on and off ramps on the highway. Look around next time you take that same ramp, and start to set it up as if it were a racetrack. (If you are a racer, this is also a good way to practice for learning new tracks!)

CORNER CAPTAIN CHECKLIST - NEW HAMPSHIRE MOTOR SPEEDWAY

- Flags; check before leaving for your post that all needed flags are present in the bag
- Water jugs
- Flagger radio – turns 1, 3, 4, 5, 8, 12
- Headset for flagger radio for hands-free flagging
- Clean up materials – Attapulgate, fluffy stuff, diapers, broom(s) (should be out at turn)
- Fire extinguisher (should be out at turn)

INDIVIDUAL NHMS TURN SPECIFICS

Turn 1

- Flagger: needs radio or scanner to hear Control.
- Flagger: for Turns 1 and 1A; displays stationary yellow “pre-flag” for waving yellow in Turn 2.
- During races when riders miss Turn 1, report any gain in track position to Race Control. Race Control only needs to know if there was an advantage or gain in position. IF there was no advantage, you do not need to call it in.
- No practice 1st lap or warm-up lap yellow necessary at Turn 1 flag station.
- Front straight engine failures can spill oil in this turn. Two riders down in quick succession -- look for oil in the turn. If you see someone experience engine failure and know there is oil on the front straight notify Race Control and ask to have the session stopped.
- Watches for Turn 1 overshoot into the oval track area – alert the Turn 2 workers by calling on the radio “Heads up 2”. Also, plug chops stop at Turn 2 oval track area during 250GP-type races.

- At start of race, face the track so you can turn your head quickly to scan both oncoming traffic and going thru turn 1 and 2. Keep both red and yellow in your hands for the start because if someone goes down in 2, a quick response for the next wave is critical.

Turn 2

- Flagger: if motorcycle hits tires, automatically hold out oil flag in addition to any other flags, until it is determined if there is water run-down or not.
- Exit of turn is blind to riders. One worker stands up track, "pushes" or directs riders around exit incidents to give riders maximum reaction time.
- If necessary, Captain calls Control for break to cross rider/motorcycle to inside of track (riders' left).
- Be aware of Turn 1 overshoots into the oval track area.
- Plug chops stop at Turn 2 oval track area during 250GP-type races. Signal plug chops after track clears down toward 2 flag, back out 1A gate.

Turn 3

- Flagger: needs radio or scanner to hear Control.
- Flagger: listens for flag call from Turn 4 if Turn 4 flag position vacant.
- Rider who cuts through from Turn 3 to Turn 10 during qualifying or racing will incur scoring penalty. Encourage rider to return to course via Turn 3. Otherwise, report rider to Control for cutting course.
- Watch Turn 3 oncoming traffic for flying motorcycles at all times.

Turn 4

- Flagger: needs radio or scanner to hear Control.
- Flagger: positioned at the rider's right at the wall at the base of the climb up the hill.
- When no Turn 4 Flagger, call Turn 3 for flags.
- Exit of turn is blind to riders. One worker stands up track, "pushes" or directs riders around exit incidents to give riders maximum reaction time.
- When Turn 9 is vacant, call Turn 9 incidents.
- Must call for break in traffic to cross track to Turn 9 and respond to incidents.

Turn 5

- Flag Station Only: needs radio to communicate with Control and Turn 6.
- Clear Turns 1 - 5 on race warm-up lap. Give number of last bike.
- Watch for passing on waving yellow in Turns 2 and 3. Write down the numbers to call to Control after the incident is cleared or at the end of that session.

Turn 6

- Responsible for Turn 7 area (exit area of Turn 6) when Turn 7 vacant.
- Run-offs and crashes in Turn 7 are not always easily visible from Turn 6. Turn 8 or 5 may notice incidents there and report.
- Spread out workers to cover the exit of 6 and Turn 7 entrance when enough people are available.

Turn 7

- Flagger: stationed at the tree stump and barrier on rider's left at Turn 6 exit.

Turn 8

- Flag Station Only: needs radio to communicate with Control.
- Flags for Turn 9. Listen for flag call from either Turn 9 or Turn 10.
- When Turn 9 is vacant, reports incidents in Turn 9 that are visible from Turn 8.

Turn 9

- **No Flagger:** Call Turn 8 for needed flags.

Turn 10

- Flagger: Listen for flag call from Turn 12 for blind area.
- When Turn 9 vacant, report incidents in Turn 9 visible from Turn 10.
- Also responsible for the visible portion of Turn 11 when Turn 11 is vacant.
- Watch Turn 3 oncoming traffic for flying motorcycles at all times.

Turn 12

- Flagger: needs radio or scanner to hear Control.
- Flagger: flag for incidents on the front straight.
- Flagger: listen for ambulance entering track at Turn 1, prepare flags.
- When riders miss Turn 12, report any gain in track position to Control.
- When Turn 11 vacant, call and respond to Turn 11 incidents out of view of Turn 10.
- Watch and call last rider number on to the front straight at the end of practices/races.
- Advise starter when all riders have reached the front straight starting grid area on the race warm-up lap. Radio call "Starter, you have them all."
- If red flag is called, listen for direction on continuation or end of session. Turn 12 captain (or closest worker) moves quickly to appropriate side of track at "s" section to aggressively signal riders to either 1) pit in/session ended ("pre-grid"), or 2) continue out onto the front straight for re-start ("main grid").

BECOMING A CAPTAIN

WHAT TO DO WITH A BRAND NEW CORNER WORKER

When a brand new worker is assigned to a corner, this person should be given extra attention. Try to remember the first time you were on a corner. It is a new experience and needs to be properly introduced. It is intimidating to most people, and not second nature – it takes time to grasp all that needs to be done in an instant. The new person should be reminded their primary job is to observe. Give the new worker a specific job that they are in charge of – for example have them bring the broom or a fire extinguisher or clean up material to any and every crash. This gets them involved without the intensity of jumping right out into race traffic.

If they are to be the flagger, always go over the hand signals and meanings of the flags before they go to the flag station. Go with them and help them with proper placement of the flags and where to stand when not flagging. If there is another experienced flagger on the corner, have them flag first so the new person can watch, while you comment on what is happening as it happens. Be careful about sending a new person to flag without enough communication. This is the most important job on a corner and should not be taken lightly. Also, if it is the person's first day – be sure to swap them off of flags and not just leave them there all day as that will not be the best experience for the new worker and may discourage them from coming back.

Remember the adrenaline rush you got when you first worked? Discuss this with a new worker. It is normal to have such a surge, a rush when there is a crash in your turn. Teach them to use it to their advantage.

DO NOT be COMPLACENT! Remove rider, then quickly think through bike removal before attempting a difficult removal. If not feasible, get OFF the TRACK. Report to Control. Decide what to do from a safe vantage point.

Requirements for becoming a Captain

The previously listed cornerworking practices are to be mastered by one who wishes to become a corner Captain. Workers who demonstrate that they can responsibly perform all of the different functions and wish to move to corner Captain status, shall ask the Race Control person to initiate review of the performance of the worker by senior staff and corner Captains. After a trial period of observation and confirmation of skills, the worker will be appointed to Captain status.

ADDITIONAL READING

HEARING PROTECTION

The following information was taken from an article by Dr. Victor Gotay, M.D, Director of the Ear, Nose and Throat Associates of Waterbury, with his permission.

He states, “There is no doubt in my mind that noise can affect and damage hearing; and not just long term noise. A gunshot or explosion, which only takes a split second, can permanently damage the ear.

A 90-decibel level at close range is considered dangerous. Federal regulations require employers to establish hearing conservation programs for all employees regularly exposed to noise levels of 85dB or more.

At 140 dB, a gunshot obviously is a health hazard, but many other ordinary sounds are just as hazardous. Even ordinary household sounds such as a blender (90 dB) and a vacuum cleaner (85 dB) can be damaging.

The amount of damage done by noise depends mainly on the loudness, the pitch and the duration of the noise.

The louder, short duration noises are less dangerous than those of long duration i.e., a lawnmower (motorcycle) produces about 100 dB twice as loud as the hazardous level of 90 dB. (Every 10 decibels is perceived as doubling the loudness.)

It would be very helpful, say Dr. Gotay, to wear hearing protection (ear plugs) because once you damage the nerve cells in the inner ear, the damage is irreversible. Once the hearing is gone, there is nothing to make it come back.

That is why it is so important to prevent damage before it occurs.

Earplugs are inexpensive and easy to obtain (sold at the track and in sports departments of stores). Some people find them annoying at first, but in a short while, (provided they’re used properly), they become barely noticeable. I often forget to remove mine at the end of the day!

“Noise does not just damage hearing”, says Dr. Gotay; “besides the physical effect on the ear, studies have linked noise with other ailments such as high blood pressure, cardiovascular disease and ulcers.”

In addition, other studies have shown noise related learning disabilities, irritability, fatigue and work efficiency among other things.

“Your ears are one of the most important parts of the body,” said Dr. Gotay. “But once that hearing goes – nothing will bring it back.”

So please remember to wear hearing protection at the track and don’t forget – children have very sensitive ears.

Concussions are an unfortunate side effect of sports. They range in severity from the minor, “he just had his bell rung” to major, “he was knocked clean out”. Concussions can occur anytime a rider falls and hits the ground, regardless of how hard they hit the ground. Even the slightest blow can cause a concussion.

What is a concussion? A concussion is the most common head injury. They are a form of brain injury that is caused by a blow to the head. It is an alteration in mental status caused by the brain’s being shaken inside the protective skull. A concussion occurs when the body is moving rapidly through space and suddenly stops. Keep in mind that the brain is traveling at the same velocity as the rest of the body. When the body suddenly stops, the brain continues to move at the same velocity in the same direction. The brain then hits the skull and bounces back, hitting the opposite side of the skull until it loses momentum. When the brain strikes the skull, a portion of it is damaged. When enough damage is done, it begins to operate improperly. This is when we notice the symptoms of the concussion.

Concussions are separated into categories:

- The racer’s head is struck or moved rapidly. It is characterized by a post injury headache and difficulty with concentration. The racer may not notice any other symptoms. The person may return to competition, but it is prudent to observe the racer for at least 10-20 minutes before allowing them to return.
- The racer suffers only momentary confusion (may appear stunned or dazed), characterized by inattention, poor concentration and an inability to process information or sequence tasks. There is no loss of consciousness. These symptoms usually go away in less than 15-30 minutes, in which case, neurologists say that the person involved may return to competition. Again, it is prudent to observe the racer for at least 15-30 minutes before allowing them to return.
- Symptoms characterized by headache, cloudy senses, tinnitus (ringing in the ears), amnesia, irritability, confusion, or dizziness. There is no loss of consciousness. Symptoms last longer than 15-30 minutes. The racer should not return to competition that day and remain symptom-free for a week. If symptoms persist longer than one hour they should see a doctor.
- This level of concussion is easy to recognize; the racer is unconscious for any length of time. If unconscious for only a few seconds, they can return to competition after a symptom-free week. If unconsciousness lasted for minutes, they should receive a thorough neurological examination and remain out of competition for two to four weeks or until all symptoms resolve. (Corner workers: Noting the length of time of the “blackout” may help determine a diagnosis later.)

What a racer with a concussion may experience:

- Disorientation, lack of awareness or surroundings
- Inability to recall events immediately before or after the injury
- Spacey feeling that doesn’t go away
- Behavioral changes, irritability
- Loss of consciousness
- Blurry vision
- Dizziness or vertigo
- Headache
- Slurred words
- Chills
- Nausea
- Vomiting
- Memory loss

What to do:

- For headaches take acetaminophen (Tylenol). Avoid aspirin because of the risk of bleeding.
- Do not give a person who has suffered a head injury any food or water, both can induce vomiting - which can create breathing problems in a semiconscious or unconscious person.
- Do not give the person alcohol or sedatives.
- Do not leave the person alone. Watch them carefully for at least 48 hours (most problems show up in the first 24 hours after the concussion).
- Allow the person to sleep as long as someone wakes them up every two hours. (They should be able to recognize you and tell you such things as their birth date, age, and telephone number. If they can’t be easily awakened or don’t answer the question correctly, take them back to the hospital.)
- Make sure no symptoms recur. If they do, take them back to the hospital.

Each concussion is serious and should not be taken lightly. Look for any damage to a racer's helmet. Even the smallest scratches should be taken seriously if a racer has a history of concussions. The effects of a concussion can be additive or cumulative and the after effects of a concussion, post-concussive syndrome, can linger for days, weeks, or months. The bottom line is the safety of the racer! We have only one brain and when it's damaged it's damaged for life. If there is any question with the disposition of a head injury, refer to the proper medical professional. Ambulance crews are available at every race to check a rider, even after he has returned to the paddock.

Above all, don't take anything for granted!

We hear a lot about what we should eat to stay healthy, but there's one thing we need even more than food each day – and that's water. Every part of your body needs water to work properly. Water is important because your body uses it for so many jobs: it helps get rid of waste, lubricates joints, helps make up blood, sweat, tears, and saliva, and regulates your body temperature.

Some people say, "I don't need water because I'm not thirsty". That's because thirst can be slow to develop. Often we don't feel thirst even when our bodies need fluid. We often confuse thirst with hunger too. Sometimes when you think your body is asking for food, what it really needs is water. This is why it's a good habit to drink water regularly – whether you feel thirsty or not. Most of us need between 1.5 - 2.5 liters each day. But if the weather is hot or you are exercising, (i.e. racing, or in the pits) you need more water (remember you're near black, heat absorbing, asphalt effecting the heat index).

In such hot climates, the body depends mainly upon sweating to keep it cool, and water intake must be maintained to allow sweating to continue, thereby preventing heat exhaustion. Also keep in mind that a person who has suffered one heat injury becomes even more susceptible to suffering another. You need to drink cool water (50 – 55 degrees F); it's absorbed faster than cold water. Drink small quantities frequently and sip liquids rather than gulp.

Every Part Of Your Body Needs Water

- Your eyes are 95% water
- Your heart is 80% water
- Your bones are 25% water

Water Is Essential!!!

The body can lose more than a quart of water per hour through sweat. Lost fluids must be replaced quickly on race day. Drink an 8-ounce electrolyte drink (Gatorade, PowerAde, and so on) every quarter-hour, a quart an hour, **two gallons during a race day!** Drink lots of liquids, the lighter the urine color, the better hydrated you are. (If your urine is dark yellow, you are not drinking enough water!) If you perspire more than others do, drink as much fluids as you can during hot, humid days. Snack on salty foods and eat all meals to replace salt. Do NOT take salt tablets. They are concentrated and will draw water away from the body into the stomach and cause further dehydration.

Careful with the pit mate that says "I don't need water because I drink a lot of coffee and tea". Tea and coffee aren't good substitutes for water – both these drinks contain caffeine, which makes your body lose fluid. Alcohol or carbonated beverages with caffeine will also speed up fluid loss. That means cut down on the soda!

So drink your water and electrolyte beverages and stay hydrated!

Everybody has had one. Everybody will get another one. So what are they? So what can you do to help reduce them? Exercise, participate in a sport? But exercising and playing sports can cause them. It's a Catch 22. The irony of it all. So why read this? So you can take care of yourself, your racer, and your pit mates.

BUMPS/BRUISES A bruise (contusion) is an injury that causes bleeding into or beneath the skin, but it does not break the skin.

The primary symptoms are pain, tenderness, swelling, and discoloration. At first, the injured area is red due to local irritation; as time passes the characteristic "black and blue" (ecchymosis) mark appears. Several days after the injury, the skin becomes yellow or green in color. Bruises are not permanent and will fade.

To reduce bruising caused by a trauma, try RICE.

STRAINS A strain is an injury caused by the forcible over-stretching or tearing of a muscle or tendon. They are caused by any action that pulls and stretches the muscles beyond their normal limits.

The primary symptoms are pain, lameness, stiffness, swelling, and discoloration.

After a day or two of RICE, apply warm compresses to increase circulation. If the pain or swelling does not decrease and you are unable to move the affected muscle, seek professional medical attention.

When the pain subsides, start activity slowly and in moderation.

SPRAINS A sprain is an injury to a joint ligament or a muscle tendon in the region of a joint. It involves the partial tearing or stretching of these structures, injuries to blood vessels, and contusions of the surrounding soft tissue without dislocation or fracture. Sprains are caused by the violent pulling or twisting of the joint beyond its normal range of motion. The joints that are most frequently sprained are the ankle, wrist, knee, and finger. Tearing of the ligaments is the most serious aspect of the sprain, and there is a considerable amount of damage to the blood vessels. When the blood vessels are damaged, blood may escape into the joint, causing pain and swelling.

Primary symptoms are muscle or joint pain upon motion, impaired joint function, swelling, and discoloration.

After a day or two of RICE, apply warm compresses to increase circulation. If the pain or swelling does not decrease and you are unable to move the affected joint, seek professional medical attention.

To prevent sprains, stretching and proper strapping or taping prior to participation in athletic activities can help.

R.I.C.E. for Minor Injuries

Exercise and sports are good for your health, but can raise your risk for sprained joint, strained muscles, and other minor injuries. Proper care in the first day or two after injury can reduce the time you are sidelined by it.

Should you suffer a sprain, strain, or other muscle or joint injury, treat it with RICE - rest, ice, compression, and elevation. RICE can relieve pain, limit swelling, and protect the injured tissue, all of which help to speed healing.

Rest - Resting is important immediately after injury for two reasons: Rest is vital to protect the injured muscle, tendon, ligament or other tissue from further injury. Your body needs to rest so it has the energy it needs to heal itself most effectively.

Ice - Use ice bags, cold packs, or even a bag of frozen peas to provide cold to the injured area. Cold can provide short-term pain relief. It also limits swelling by reducing blood flow to the injured area. The best rule is to apply cold compresses for 20 minutes and then leave them off for at least 20 minutes, then repeat.

Compression - Compression limits swelling (swelling that slows down healing). Some people also notice pain relief from compression. An easy way to compress the area of the injury is to wrap an ACE bandage over it. If you feel throbbing, or if the wrap just feels too tight, remove the bandage and re-wrap the area so the bandage is a little looser.

Elevation - Elevating an injury reduces swelling. It is most effective when the injured area is raised above the level of the heart.

After a day or two of RICE, many sprains, strains, or other injuries will begin to heal. But if your pain or swelling does not decrease after 48 hours, seek professional medical attention.

That's what they say "Down Under" in the blistering sun of Australia. "Slip on a shirt, slap on a hat, and slop on some sunscreen." Even in Hawaii, where people spend a lot of time outdoors year-round, Hawaiians teach their young children how to be "Sun Smart". So why do we still think we can spend all day outside in the sun and have no ill effects? The fact is that people need to wear sunscreen every day, year-round, even on cloudy day, since 80% of the sun's rays can penetrate light clouds, mist, and fog. It's been suggested that everyone, no matter what their skin type, use sunscreen, as well as other protection against the sun. Even people with dark complexions can get sunburn, with is the most preventable risk factor for skin cancer. Even children should receive appropriate protection from the sun.

Sunscreens are not the total answer; they are just one part of sun safety. Wearing a wide-brimmed hat (or any hat), a lightly colored long sleeved shirt, and long pants offers greater sun protection. And don't forget your sunglasses (one's with 100% UV protection). Remember to use lip screens too (yes, your lips get sunburned.) Avoid or limit your sun exposure during peak hours between 10 a.m. to 4 p.m. EST when the rays are strongest. Try to stay in the shade, under an umbrella or canvas tarp, whenever possible. And when you are outside apply liberal amounts of sunscreen.

Many people fail to apply sunscreen correctly. Apply the sunscreen to all exposed body areas one hour before sun exposure. (And guys, don't forget the tops of your ears and bald scalp areas.) The sunscreen should be reapplied generously every 1 – 2 hours, and especially after swimming or heavy perspiring. So put a lot on. Put it on thick. People complain that they used sunscreen and still got burned. They either didn't apply enough or have not reapplied it liberally every hour while being in the sun. Sunscreens labeled with an SPF of 15 or greater provide the best protection.

Remember sun damage is cumulative over a lifetime. Studies have shown the cumulative sun exposure can cause premature aging of the skin, destroys elasticity, contributes to the development of wrinkles and "sun spots", and sets the stage for skin cancer. These can all be prevented with a change in attitude and behavior.

So don't think that you can slather on the sunscreen, recline on lounge chairs, and bake for hours mistakenly thinking you are fully protected from the ravages of the sun. Sunscreens are not a chemical suit of armor. So use some common sense practicing sun safety and remember what the Australian's say -- "Slip, slap, and slop".

Heat-related illnesses are one of the most common sports related conditions. It occurs as the result of prolonged exposure to heat, humid weather, and increased activity (compounded by sunlight, the Heat Index, concrete, and asphalt).

Briefly, sweating acts like our natural cooling system. As sweat evaporates from our skin, it cools us off. However, our personal cooling system can fail if we overexert ourselves on hot and humid days. When this happens our body heat can climb to dangerous levels resulting in heat exhaustion. Heat exhaustion is one of the body's safety valves and functions to stop the body from working when the heat-loss system is overtaxed. In essence, the body is simply trying to prevent a greater rise in body temperature and the extremely harmful effects of heat stroke. On a race engine with a radiator leak, too much heat buildup causes the engine to lose power, and it will eventually seize. So just like the temperature gauge on a race bike that monitors engine heat, monitor your own symptoms to prevent any potential problems. Racers don't hesitate to pull in when their bike is overheating, so don't be afraid to find shade or air-conditioning if you have any of these symptoms.

SYMPTOMS OF HEAT EXHAUSTION

- Weakness, giddiness, lightheadedness, dizziness, headache, nausea
- Fatigue, lethargy, exhaustion
- Difficulty concentrating
- Loss of coordination
- Impaired judgment
- Disorientation or fainting spells
- Dilated pupils
- Skin is pale and moist, possibly heavy perspiration, clammy skin
- Body temperature is low or normal
- Pulse is weak or rapid (120-200)
- Hyperventilation
- Tingling in hands or feet
- Muscle cramps, spasms
- Possible vomiting
- Loss of appetite
- Intense thirst

FIRST AID FOR HEAT EXHAUSTION

- Remove victim to cool location, out of the sun, such as a shaded area or air conditioned building
- Loosen or remove clothing and cool victim with water, fanning for quick evaporation (but stop if goose bumps or shivers develop)
- Use cold compresses (especially to head and neck area, also to armpits and groin)
- Give victim cool electrolyte beverages to sip or cool slightly salted water (1 tsp. per quart) 1/2 cup every 15 minutes
- Do NOT leave the victim alone
- Do NOT give any liquids containing alcohol or caffeine as these may interfere with the body's ability to regulate it's internal temperature
- Do NOT give the victim a cigarette
- Do NOT apply ice directly to the skin
- Do NOT use an alcohol rub
- Do NOT give any medication to lower fever
- If the victim's condition does not improve or worsens seek medical attention immediately
- Victims of heat exhaustion should avoid strenuous activity (for at least a day) and continue to drink fluids to replace lost body fluids

PREVENTION

- Practice "Sun Safety" by wearing a brimmed hat, sunglasses, and putting on lots of sunscreen
- Stay hydrated
- Drink an 8 ounce electrolyte drink every quarter-hour, a quart an hour, two gallons during an 8 hour day (thirst is not a reliable sign that your body needs fluids)
- Sip liquids rather than gulp
- Drink lots of liquids (especially if your urine is a dark yellow)
- If you perspire more than others, drink as much fluids as you can during hot, humid days
- Snack on salty foods

- Do NOT take salt tablets (they are concentrated and will draw water away from the body into the stomach causing further dehydration)
- If you feel very hot, try to cool off (use a fan or get into an air conditioned building)
- Pace yourself (rest frequently in a cool place)
- Shower or submerge in cool water
- Medications (water pills, mood altering or antispasmodic drugs) can effect your ability to withstand the heat, check with your doctor
- Do NOT drink alcohol or beverages with caffeine (they speed up fluid loss)
- Take caution when you must be in the sun and at the first signs of heat exhaustion - stop what you are doing and get out of the sun (or your body temperature will continue to rise)

Hang these charts up in your pit, van/truck, and campsites for quick reference. We all need to look out for the signs of heat exhaustion to keep everyone, on and off the track, safe.

You have signed up to corner work at NHMS or Bridgehampton thinking you will have an entertaining day basking in the sun, occasionally bestirring yourself to convey a hapless rider or his now very used motorcycle safely to the sidelines.

Unfortunately, this idyllic picture is fatally flawed. In fact, you are standing on a vanishingly thin crust of rock and dirt, covered by an even thinner and rapidly disappearing film of atmospheric gas. Between these fragile boundaries lie the burning plasma of the earth's core and the hard vacuum of space. What's more you have chosen to place yourself in the path of fossil fuel-burning missiles and the only thing keeping them from veering toward you and smashing you to bits are the tiny brains of the riders which themselves are on the brink of meltdown from raging hormones and sensory overload.

Now that you are better aware of the situation, you may reflect upon the equipment and supplies that could possibly allow you to survive the experience. Essentially, you must be prepared to deal with both external and internal threats, the former being the most serious. Standing all day at a corner working station you are bombarded by ultraviolet radiation from the sun which is arriving at higher fluxes now that we have done away with the protective ozone layer. Extremes of atmospheric temperature and moisture content must be considered: you will be baked by the sun or drenched in freezing rain, there is no middle ground. You will be blasted by dangerously high levels of noise, noxious fumes from both motorcycles and your colleagues, and possibly by massive projectiles traveling at high rates of speed. Moreover, you might have a headache.

How to survive?

Essential clothing includes a hat, neck protection (red neck prevention), and sunglasses that can block UV. Ultraviolet exposure to the eyes induces cataract formation and promotes the development of melanomas on the retina (malignant tumors which grow so fast you can hear the cells divide). A sunblock with spf 30 is a good idea; UVB light (290-320 nm) is the bad stuff (sunburn, wrinkles, and cancer) and is blocked by a variety of over-the-counter sunscreens. Don't forget sunblock for the lips as well, lest smiling become a painful and bloody experience. If you fail to bring earplugs for the first few weekends worked, you probably won't need them later as your high frequency hearing will already be lost. Foam plugs are cheap and effective.

Rain gear comes in three forms: coated nylon, Gortex, and vinyl. Coated nylon is cheapest and provides decent protection but it doesn't breathe. Gortex is costly and ultimately not waterproof, but it breathes and may be more comfortable on warm wet days. Vinyl offers complete protection from rain but it doesn't breathe at all and you will have to decide what form of wetness you prefer: nature's pure rain water or your own fetid sweat. When one is too dumb to get out of the rain voluntarily, one is well advised to have rain pants as well as a jacket. Wearing a rain jacket without pants will only increase your suffering as your wet feet and legs are constantly reminded by your dry upper body how pleasant life could be. Finally, you must consider footwear. It is decidedly unpleasant to have both warm upper and lower parts tottering around in waterlogged sneakers. A pair of those new lightweight boots-that-look-like-sneakers, are a good compromise and may also save some trauma should a delirious rider attempt to stomp on your feet. If you are battling pouring rain then Wellingtons or Bean shoes will do better.

The fundamentals of layered dressing are well known to anyone stupid enough to go ice climbing or winter camping, but may not be universally understood by corner workers. Indeed, probably nothing is universally understood by corner workers. In any event, for the freezing months of April, May, September, and October you should know the following fact: cotton kills. In fact, if it had not already been in use for thousands of years, its use would probably be banned by the FDA. Cotton loses its insulating capacity when wet, unlike wool or synthetics which will continue to keep you warm through sweat and/or rain. Amazingly, this applies not only to shirts but to pants as well, so a warm wool sweater will be little comfort if you are wearing soaking wet cotton jeans. Cheap wool garments can be found at most surplus stores, while expensive synthetics are always available at EMS, REI, and other backwoods haberdashers. The synthetics (*e.g.* polypropylene and Capilene) also have the added feature of "smell memory" which enables the user to smell as if they had never bathed in their lives. This can actually be of tremendous benefit if you are trapped in your corner with unwanted company, or if you are partial to dogs. The theory of layering is that layers are a good thing. And if you are still cold beneath thermal underwear, a wool shirt, and a pile jacket put on your shell (raincoat) and you will be toasty in no time. Now when the days get hot, it's all backwards as cotton is cooler and much pleasanter than the cheap synthetic T-shirts they try to foist on you at the corner workers' lotteries. Layering under warm conditions is practiced only by bag-people and is to be avoided by nice clean-living persons, but it is beneficial to cover all exposed parts (*i.e.*, long-sleeved shirts) despite the heat of summer when you are outdoors all day.

Having dealt with external threats we turn our attention, at last, to the internal environment. If you are not aware of your internal environment try this simple exercise. Ask yourself "who's minding the store?" and you will instantly become aware of the fact that your heart is beating, your lungs respiring, and your entrails are squirming despite the fact that you haven't paid them the least attention. If you fail this test lie down immediately as you are quite probably dead. If you pass the test then you will probably be able to go corner working when the next race weekend rolls around. Now better aware of the brutal nature of the forces arrayed against you, you may reconsider how to keep all your systems in a go state throughout the interminable hours of practice and racing.

Again the principles are simple and arise from fundamental observations. The first is that, unlike plants, humans cannot capture energy for metabolism directly from sunlight. The second is that the human kidney is poorly designed and is obligated to generate a minimum flow of urine whether you drink or not. Based on this information it is clear that you must bring food and liquid refreshment with you to your lonely outpost. Your performance will be enhanced if you are neither starved nor dehydrated and your survival reflexes will operate more briskly, should they be called upon. Moreover, the increased activity level of the well-fed worker will be pleasing to Control who is watching you from the tower at all times. The specific type of food you bring is a matter of individual taste (sic) and is beyond the scope of this dissertation. Suffice to say that certain food byproducts (e.g. banana peels) may provide amusement if thrown on the track, and that in cold weather increased consumption of calories is needed to maintain core temperature.

The use of medications must be carefully considered. Pre-medicating oneself with large doses of alcohol the night before may be diverting, but will result in profound dehydration the following day which must be replaced with both water and electrolytes (Gatorade, for example). The use of mind-altering drugs during a race weekend is of course anathema; it endangers not only yourself, who nobody cares about, but also others, who others do care about. Consider, for example, the problems which might arise if you arrive at the scene of a burning bike and, rather than deploy the fire extinguisher, you gaze contemplatively into the flames. Finally, a word about aspirin and the potential ill effects of dissipating the inertia of a GSXR-1100 with your body. Among all the over-the-counter pain medications, aspirin stands alone in its excellent capacity to inhibit the action of blood platelets which play a critical role in stemming leaks in your plumbing. This property makes aspirin a wonderful drug for heart attacks and strokes, but it could complicate matters extremely should a surgeon have to go mucking about in your brain for a brake lever or some other projectile. This effect of aspirin lasts for days, so if you place yourself in the line of fire use acetaminophen or ibuprofen for recreational pain relief in the week preceding your race.

Armed with this little bit of knowledge, you are now ready to "enjoy" the weekend. Having been alerted to the many dangers you confront in the false safety of your corner working station you might even consider going racing instead. For would it not be safer to be running with the pack than standing as a stationary target passively waiting for that final moment when the universe as we know it collapses into a tiny ball of cold dark matter?

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