



The Flag and Whistle
Newsletter of the South Bay Soccer Referee Association
Serving the Soccer Community since 1976



Written by: Jonny Joseph
Edited by: Alan Siegel

July 2023

Notes from the Board

“Summertime,
And the livin’ is easy...”

I am pained to be writing this month’s newsletter a little late and while I sit on an airplane on my way back to LA from a wonderfully relaxing week in Cabo.

Our next event to look forward to is our July Membership Meeting:

- Tuesday, July 25,
- North High School Cafeteria,
- Cal South President, Nick Webster,
- 2023 – 2024 IFAB Law Books,
- Supplemental Reports Case Study.

We are almost one month into our 2023 – 2024 membership year. The Board is very pleased to announce that 99 out of 154 members (64%) have already renewed their membership. While 109 members have paid their dues or had them withheld from game fees paid by the Association, 55 members still have to complete the renewal process by:

- Ensuring inclusion on Cal South’s USSF Registered Officials List (ROL),
- Submitting an RMA,
- Providing a signed Form W-9, and
- Paying annual dues,

Please be reminded that the grace period for the payment of dues is receipt of payment by July 31 by:

- deduction from game fees, or
- payment by check, cash or PayPal.

The time period for the deduction of dues from fees for games officiated in May and June, and paid in June and July, respectively, is now over. To avoid assessment of the \$20 late fee, dues must be paid in full by no later than the grace period which ends on July 31. Dues deducted from fees for games officiated in July are applied in August and are deemed late payments by the Association.

We are poised for a great season starting in a few weeks. Hopefully we have all enjoyed a good break from the daily grind and from refereeing soccer and are refreshed. If, like most of us, you have put on a few pounds or haven’t kept your fitness up, please start working on your fitness so you will be in shape

Board of Directors

President: Jonny Joseph **Vice-President:** Steve Morgan **Secretary:** Kiku Annon
Treasurer: Bruce Ashton **Member-At-Large:** Stephen Resnick **Assignor:** Gabriel Goldsman



when we start. It's too easy to risk serious injury otherwise. In addition, please read the important information about the dangers of heat and how best to manage it below.

New Member Incentive Program

Remember, we have a New Member Incentive program whereby you can enjoy a year's membership with no dues payable for any new member you recruit when they pay for their second year of membership. We are anticipating a very busy fall season. With huge demand (of many games) we need additional supply (of referees). We created a flyer (copy attached at the end of this newsletter) for us to hand out at the fields. These are also available on our website. Print them out, insert your information at the bottom of the flyer, so you get credit from the Association, and take them with you to the fields to hand out.

Professionalism

Match Reports

Our referee duties do not end when we blow the final whistle. We usually need to complete a match report. This is mostly in the form of a printed document provided by team managers. We need to be aware of league requirements and ensure we comply with them.

In particular:

SBPSL games, complete the Line-Up Cards with match result, misconduct, and all other information requested. Ensure the names and jersey numbers of carded players are legible. Retain the SBPSL ID card of all players and Managers sent off. Submit completed Line-Up Cards **to John Moody** (jmomoods@verizon.net) **and our Member-At-Large** by email on the same day as the game, by attaching a scan (in PDF format, preferably) or a picture of the report. **Please ensure the report is legible before sending it!** **NOTE** – there are a number of great scanning Apps available for use on smart phones from which one can email the pdf directly to any contact.

In cases which require misconduct reports, members are reminded to send the misconduct reports to our Member-at-Large and the applicable assignor and **not to any leagues**.

For more details about the completion of any match reports and the reporting requirements for all of our leagues, please visit our Competitions page at <https://sbsra.org/competitions>.

We are disappointed to note that since the last newsletter was published, we had a member take over a week to prepare a Supplemental Report. This was despite multiple follow-ups and opportunities to complete it sooner. This is simply unacceptable. When needed, these reports must be completed and submitted to the Member-at-Large and the applicable Assignor ASAP! If you are unsure of what to do or need help, reach out to the Member-at-Large IMMEDIATELY!

Availability and Blocks

All members have an obligation to minimize the number of times we decline games after we are assigned.



As independent contractors, we all are entitled to accept assignments wherever we can get them. However, in fairness to all assignors, Gabriel and Veto here, and others elsewhere, we are all requested to block the days that we are unavailable to the applicable assignor(s) ahead of time. Choosing which association/league/organization we want to work for on specific days is perfectly fine. However, waiting to see which games you are assigned and then declining the less favorable ones is simply **not acceptable**.

The extra work it creates for the assignor is more than most of us can imagine. **Please block ahead of time!**

Honesty

Our assignors' jobs are complex, and they spend a significant amount of time assigning games each week. Periodically, we have members turning back games (declining after receiving the assignment) for various reasons. A common reason is games from another assignor that the member prefers. In many of these cases, we learn about the other assignments and know that any reason given for turning back our association's games is not the truth!

This is not acceptable. Please pick up the phone and call the assignor to discuss your situation. They will work with you to make you happy and will not deny you the opportunity to referee a "better game."

Supplemental Reports

Due to ongoing challenges, we continue to provide the following guidance for all members:

Please be reminded that whenever we have serious situations, a supplemental report is required:

- The **USSF Supplemental report form**, on the SBSRA website, must be used (**NOTE – we no longer use the Cal South report form**),
- The report is required to be prepared ASAP, **within 24 hours** for **all serious situations**, including:
 - **Red cards**;
 - **Serious injuries** (paramedics called, player taken to emergency room/hospital), attended to by the trainer; or,
 - **Game terminations**, etc.,
- Take a **copy of the Match Report** to assist you with preparing the USSF incident report,
- Use **simple language** and include the **facts of the incident** only:
 - **When** – date and time, point in the match;
 - **Where** – venue and specific location on the field;
 - **Who** was involved? The player's name, number and team; and,
 - **What** happened? Don't speculate, just note what you saw.

Note, there is no "Why." It is not our job to speculate on why someone did what they did, and we should not include a diagnosis of the injury, even if we have the ability to do so.

- **Do not use abbreviations**, only use **language in the Laws of the Game** to describe the applicable misconduct.
- **Call the Assignor**, after any game that requires a supplemental report, so he is informed when the league calls him.



The Flag and Whistle

July 2023

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- **Submit the supplemental report** to our Member-At-Large (MAL) and the applicable Assignor (who assigned the game) who will review the report and possibly suggest edits. **Do not submit supplemental reports to any leagues.**
 - Following submission of the incident report to the MAL, please call him/her to ensure it has been received if you have not received an **acknowledgement of receipt within 2 hours.**
 - **Following review and approval** of the report by the MAL and Assignor, the **Assignor submits the final report** to the applicable league.
 - **If you have kept ID cards** (which may not be required for all red cards), the card(s), together with copies of the match report and supplemental report must be sent to the applicable league administrator **by the end of the first business day (likely Monday)** following the game.
 - The **importance of this process** cannot be stressed strongly enough! These reports are really needed by the leagues and everything we do needs to **reflect on our professionalism** as individuals and as a referee association.

Rule Change

For those doing SBPSL games, please note their change of definition for a slide tackle to:

- To protect players from serious injury, in Division 48 and 58 slide tackling is not permitted when an opponent is within playing distance. This does not apply to the goalkeeper in his own penalty area.
The restart can be an Indirect Free Kick (dangerous play) **or** a Direct Free Kick and **may be** accompanied by a Yellow Card or Red Card, depending on the severity of the challenge. Note – a tackle with one knee on the ground is **not necessarily** a slide tackle and the goalkeeper, when outside the penalty area, is considered like any other player.

Training Opportunities

The following training opportunities are coming up and all members are encouraged to attend as many of these as you are able.

You may sign up at any time for all future Cal South courses, at no cost, at

<https://cysa.affinitysoccer.com/eventmanager/public/calendarlist.asp?calguid=&eventtab=current>

CORE Training at North High

Dark in June - the next CORE training session at North High is scheduled for a date to be determined in August 2023 as North High is unavailable on our usual third Tuesday of each month.

What is CORE?

Center of Referee Education (CORE) is a program established by the Cal South State Referee Committee (SRC). It is open to all USSF certified referees. It consists of physical trainings & lectured meetings for referees who are ambitious to rise to the elite level of Cal South refereeing.

Referees attending this event are expected to come prepared with material for physical fitness (i.e.:



The Flag and Whistle

July 2023

tennis shoes, whistle, cards, flags) as well as material for classroom (i.e.: IFAB Laws of the Game, Considerations for Match Analysis, paper and pen).

While these trainings are for referee self-development, please note that Regional or Grassroots Elite certification or recertification require referees to attend at least 5 CORE trainings per year. The same requirement applies to instructors and assessors.

In addition, to become a full member of SBSRA, all members are required to attend one CORE training to be exposed to this wonderful program and opportunity to enhance one's skills and learning.

New Referee Training at North High

Do you want a year's **free membership dues** of SBSRA? Do you know of anyone who wants to be a referee?

Please let them know of the next opportunity to attend Cal South's next New Referee Training at North High School at the same time as the CORE training each month.

Ensure they include your name on their SBSRA New Member Application, <https://sbsra.org/association/nma/> so you can benefit from our New Member Incentive (NMI) program.

New SBSRA Member Training

This training is required for all new SBSRA members to become full members of our association. All referees, both those new to refereeing and those with prior referee experience are required to attend so we can share all the details of how to maximize your enjoyment and experience as a referee in **our organization**.

We are currently working on recording this presentation so it will be available on demand in future.

Cal South Monthly In-Service Webinar

[CLICK HERE TO REGISTER FOR OR TO VIEW THESE WEBINARS](#)

Please be reminded that after viewing the presentation, live or recorded, one must take the Review (Quiz) to receive In-Service Training credit.

Other Cal South Offerings - 2023 - National Referee/ Regional to National Upgrade only

Candidates need to register for your selected courses on the Cal South Referee Website under the "Classes & Clinics offered" tab:

(<https://cysa.affinitysoccer.com/eventmanager/public/calendarlist.asp?calguid=&eventtab=current>).

Fitness Tests - (at Fedde Middle School in Hawaiian Gardens) – TO BE CONFIRMED

Monday September 18 6:00pm to 9:30pm

Sunday December 10 9:00am to 12:00pm



Two Person (Whistle) Referee System

IFAB and USSF prohibit the use of the two-person referee system. While many of us may use this system for high school and middle school games, it may not be used in any USSF-sanctioned games that we do. If any doubt, please **DO NOT USE THE TWO-PERSON REFEREE SYSTEM** unless you have been assigned by one of our Assignors to be on a two-person referee crew.

Conversely, if you have been assigned as a **TWO-PERSON REFEREE CREW** for **non-USSF-sanctioned games**, please honor the assignment regardless of what your assigned partner may say. If there is an issue, please contact the appropriate assignor, Gabriel for weekend games and Veto for weekday games.

Monthly Referee Quick Tip

We have two Quick Referee Tips from SBSRA member Alan Siegel, both specific to Futsal:

- Since the Futsal courts are adjacent to each other, it is common for a whistle sound from another court to be confused with your whistle. Consider bringing 2 whistles with different sounds and use another one if needed.
- When the Futsal teams are placing their bags and water bottles, make sure that both teams are situated on the same touchline. Then, you position yourself on the opposite touchline facing the coaches and substitutes. This has two main benefits:
 1. You can manage substitutions and see time-out requests more easily, and
 2. Being on the opposite side makes it less likely that you will accidentally trip on their stuff when concentrating on the action in front of you.

Can these tips be applied to soccer? Hmmmm.....

Do you have a quick tip to share? If so, please email it to President@sbsra.org.

From the Office of the Treasurer

Please be reminded:

- 1) **Home/Mailing Address Changes** - Provide the Treasurer with your change of address at the same time that you make the change in Arbiter,
- 2) **Checks** – please cash these in a timely manner,
- 3) **Forfeits** - Notify the applicable Assignor and the Treasurer within 24 hours of forfeited games. This way we can ensure the applicable league is billed for the ref fees that would have been paid on the field and that the referees are paid the fees owed to them,
- 4) **W-9 form** – Every member is required by Federal law to provide a W-9 form (<https://www.irs.gov/pub/irs-pdf/fw9.pdf>) to the Treasurer. We have included this as a requirement in our Returning Membership Application process for the 2023 – 2024 season. We are required to keep these forms for at least 7 years after you cease to be a member. Simply providing your SSN is



not sufficient. Please cooperate so as not to place your Treasurer and the Association in jeopardy.

Monthly Membership Meetings

To maintain our high standards of refereeing, the Association provides two vehicles to share information and instruction with our members – this *Flag & Whistle* monthly newsletter and our monthly membership meetings. Please try to attend the meeting and read the newsletter every month - this is how we share important information with all of our members.

Approval of Minutes

Included below are the Annual General Membership Meeting Minutes from our prior meeting for approval by the Membership at our next meeting.

Next Meeting

The next Monthly Membership Meeting will be on **Tuesday, August 25, 2023, starting at 7:03pm** at our regular location at the North High School Cafeteria.

We look forward to seeing you there!



SBSRA Annual General Membership Meeting
Minutes
Tuesday, June 27, 2023

- 1. Call to order at 7:09pm
2. Approval of May 2023 Meeting Minutes – Motion made by Stephan McCall , seconded by Tim Martinez, approved by acclamation.
3. Cal South Presentation – Nick Webster was called away to the USYS Regional Tournament in Idaho at the last moment so was unable to join us this evening. He promised to come to speak to us soon.
4. President’s Report
a) State of the Association:
i. Game Counts this past membership year:

Table with 3 columns: Category, Games, %

At a glance, the reason for this decrease is probably due to the South Bay Sports field closure for a number of weeks and fewer spring season games for Coast Soccer League and SoCal.

- ii. Membership – as of June 30:

We accepted 29 new members this past year. On June 30, we had the following number of members:

Table with 4 columns: Level, 2023, 2022, 2021

Net membership numbers went up by 10 members (7%) from 2022 to 2023.



3. Referee Billings to Customers, year ended June 30:

2019	\$ 108,157
2020	61,618
2021	15,752
2022	201,950
2023	228,333

Increase of \$26k, 13%, from 2022 to 2023. This is attributable to higher referee and assignor fee rates that we were able to negotiate.

4. Financial Condition of the Association:

As of May 31, we have net equity of \$27,000 and will finish the year at approximately \$25,000. This has been achieved by frugal spending and enabled us to lower annual dues by \$5 per year for two years in a row.

5. Thank You to:

- Member-at-Large – Steve Resnick; the man to see for badges, coins, etc. and assisting members with the preparation of Supplemental Reports and getting them to the Leagues. The Member-at-Large is each individual member’s representative on the Board and may represent each member as needed,
- Secretary – Kiku Annon; creating meeting agendas, recording member attendance and minutes, processing and liaising with returning members and new members, the point person for tonight’s event,
- Treasurer – Bruce Ashton; billing for games and assigning fees and hounding customers for payment, processing and preparing payments to referees, maintaining our financial records and preparing monthly financial reports and annual tax returns,
- Vice-President – Steve Morgan; monitors the Cal South ROL, maintains the Arbiter database for our members, sets up meetings and events in Arbiter, chairs the ratings committee and assists the President as needed,
- Assignor – Gabriel Goldsman; maintaining relationships with customers to ensure all games are properly assigned, assigning weekend games, our liaison with Cal South, monthly instruction set up with Chris Nevil,
- Co-Assignor – Veto Galati; maintaining relationships with customers to ensure all games are properly assigned, assigning weekday games. A big thank you to Chris Nevil who stepped in to take over this role recently while Veto was recovering from surgery,
- Webmaster – Rick Roberts; maintaining our website (a huge job) and email system, conducting our periodic formal voting process at membership meetings,
- Training Director – Chris Nevil for setting up guest instructors and working with me on New Member Orientations. We hope to have that recorded so that new members can watch this in their own time,
- Torrance Unified School District for hosting us for monthly membership meetings and monthly CORE training and new member training for Cal South.



The Flag and Whistle

July 2023

- b) Board Meeting – June 2023:
 1. One customer with a past due balance of \$1,100 (over 60 days) despite many reminders from us, and multiple promises to pay. We will need to send a lawyer's letter and hope to collect from that. Bruce Ashton noted this is the first time we have had this level of difficulty in collecting from a customer since he first became treasurer a number of years ago.
 2. 19 RMAs were presented for Board consideration and all 19 were approved.
 - c) League and Tournament News:
 - Cerritos Tournament at end of July has been cancelled due to Tournament Director's health issues. Instead, we will assist the Valley Association with the Eagles Summer Classic in Camarillo,
 - LA Galaxy to hold two youth tournaments:
 - i) August 12 - 13, Outdoors, short-sided games on new fields at the Dignity Center, and
 - ii) August 26 - 27, Futsal.
 - b) Member Misconduct – Every month we talk about supplementary reports that must be submitted ASAP after the game but within 24 hours. Despite multiple follow ups, one of our members took almost 2 weeks to submit his report for a red card. This is not acceptable. It jeopardizes our relationship with our customer and could cost us the account. So, in accordance with the Assignor Referee Sanctions document, which can be found in the Members' section on our website, the referee was fined \$25 and suspended from being assigned for 6 weeks.
 - c) Returning Member Applications – we have received approximately 60 applications and payment or deductions from match fees for nearly 80 members. Please be reminded all the following is needed for continuing membership:
 - Registration with Cal South (listed on USSF ROL),
 - Submission of RMA form and W-9,
 - Payment of Dues.
6. Board Elections:
 - a) Vice-President – Nominee Steve Morgan, no other nominees so he was elected by acclamation.
 - b) Treasurer – Nominee Bruce Ashton, no other nominees so he was elected by acclamation.
 7. Other Business:
 - i. Bruce Ashton spoke about the deduction of dues from referee match fees, and he will contact anyone missing documentation or payment in July.
 - ii. Veto talked about this week being the last week of Futsal, MB is slow, SBS game activity is surprisingly low also.
 - iii. Jonny Joseph thanked the members for doing a great job on the field which has increased the favorable view of SBSRA in the soccer community. He noted that 7 of our referees are in a group of approximately 28 referees (25%) from Cal South that are at this week's USYS Western Regional Tournament. Two of our members, Alex Arita and Servando Berna, are part of the five individual Cal South referee team going to the USYS National Tournament also. This is a significant achievement for these referees and for SBSRA as a whole.
 - iv. Paul Mathews introduced himself as a new member and was warmly welcomed by the membership.
 8. Meeting adjourned at 7:32pm.



The following are excerpts, with minor editorial changes to make information more generic, from the article “HEAT STROKE IN SPORTS: CAUSES, PREVENTION, AND TREATMENT” written by E. Randy Eichner, M.D. (*Professor of Medicine, Team Internist, Oklahoma Sooners, Department of Medicine, University of Oklahoma Health Sciences Center*)

You may read the entire article at:

(<https://www.gssiweb.org/sports-science-exchange/article/sse-86-heat-stroke-in-sports-causes-prevention-and-treatment>)

KEY POINTS

- Heat stroke is always a risk in summer sports.
- Heat stroke is typically caused by a combination of hot environment, strenuous exercise, clothing that limits evaporation of sweat, inadequate adaptation to the heat, excess body weight, and/or lack of fitness.
- Early recognition and fast treatment of evolving heat stroke can save lives.
- Preventing heat stroke hinges on acclimation, hydration, pacing, cooling, and vigilance.
- Heat stroke is a medical emergency. The life-saving adage is: cool first and transport second.

INTRODUCTION

- Summertime can bring days of brutal heat.
- Mild heat illness is common and grave heat stroke is always a threat.
- Heat illness can advance quickly, and early warning signs of heat stroke can be subtle.
- Early diagnosis and proper therapy can save lives; exertional heat stroke should be preventable.

This article covers causes of heat stroke in sports and presents tips for recognition, prevention, and treatment.

One of the highest causes of heat stroke is **over motivation**. Over-motivated athletes can overheat by doing too much too fast or trying to endure too long.

The 1-2 Punch - A prime time for heat stroke is the day *after* an exhausting and dehydrating day in the heat.

Heat and Humidity - In summer sports, it's not the heat, but the heat *and* humidity. Body temperature rises in a sawtooth line, not linearly. So, during hard practice, heat stroke is possible at any combination of ambient temperature above 80 °F and relative humidity above 40%.

Unacclimated - Getting heat-fit takes time. Lack of acclimation is a cardinal predictor of heat stroke. Acclimation, much of which occurs in a week or two, leads to better drinking and the body holds onto water and salt, increasing blood volume so the heart pumps more blood at a lower heart rate. Heat-fit athletes also sweat sooner, in greater volume, and over a wider body area, so they stay cooler.

Dehydration - Athletes in the heat can sweat 1-2 Liters an hour, and most athletes drink less than they sweat. The result is dehydration. Dehydrating only 2% body weight, just four pounds in a 200-pound person, can impair physical performance. Dehydration increases heart rate and decreases cardiac output. Perceived exertion of the work increases as dehydration drains mental sharpness and willpower along with muscle power and endurance. Dehydrated people also heat up faster.



Heat Stroke and Body Mass - overweight athletes are prone to heat stroke. Extra fat is an extra load, increasing exertional heat production. Extra fat is not the only bulk problem. When a person adds 10 – 15% pounds of body weight in muscle, he/she can generate more heat, but does not add enough extra surface area to shed that extra heat.

Fitness Protects - Physical fitness, especially aerobic fitness, confers some of the same physiologic benefits as heat acclimation. Fitness also makes workouts less taxing. So, referees who are fit at the start of the season have a lower risk of heat stroke. In contrast, lack of fitness increases the risk of heat illness.

Supplements - Stimulants speed heat buildup, so products that speed players up heat them up. Amphetamine and cocaine are the most dangerous, but ephedra is the most prevalent. Many dietary supplements tout ephedra for weight loss or quick energy. But ephedra poses many health risks, including heat stroke. Heat-stroke risk is compounded by drugs that impair sweating, like some antihistamines, antispasmodics, and medications for depression.

RECOGNIZING HEAT STROKE

Beyond Fluids - Heat stroke sometimes seems to hit with surprising speed. When this happens, a common theme of bewildered staff is, "But he got lots of fluids." The misconception is that hydration prevents heat stroke. The truth is that hydrating is critical but not sufficient to prevent heat stroke. Stress fluids but think "beyond fluids." All the factors described above can work together to cause heat stroke.

Compared to the other common causes of collapse on the sports field, trauma, heart disease, asthma, sudden blood clots tied to sickle cell trait (sickling crisis), heat stroke is often slow to evolve. The vigilant observer can detect early warning signs and avoid the worst outcome. Heat stroke is always a threat on hot days, especially with high humidity.

Early Warning - Early warning signs of impending heat stroke may include irritability, confusion, apathy, belligerence, emotional instability, or irrational behavior. Teammates may be the first to note that a player, heating up, can no longer think clearly. Giddiness, undue fatigue, and vomiting can also be early signs. Paradoxical chills and goose bumps signal shutdown of skin circulation, portending a faster rise in temperature. The athlete may hyperventilate, just as a dog pants, to shed heat; this can cause tingling fingers as a prelude to collapse. Incoordination and staggering, "running like a puppet on a string," are late signs, followed by collapse with seizure and/or coma. Upon collapse, core body temperature can be 108 °F or higher.

PREVENTING HEAT STROKE

Cooler is Better - The cooler one can stay, the better one performs. Take frequent cooling breaks in the shade wherever possible. As the temperature rises, increase rest or drink breaks. Sit in cold tubs after activity.

"Read" your body; and seek help early for illness. Confusion can limit self-diagnosis, so teammates can help. Participants can become belligerent, refusing to stop until they collapse. Early warning signs include incoherence, irrational or bizarre behavior, or poor posture.

Drink Sensibly - Hydration helps prevent heat stroke, but there is no advantage to consuming fluid in excess of sweat loss. Likewise, it's not necessary to overhydrate the night before or during the hours prior to a long run or practice. Drink for your needs. If weight loss occurs during activity, rehydration after activity is critical; drink 20-24 ounces of fluid for every pound of weight loss. Also, eat foods with a high-water content (fruits & vegetables). A sports drink beats plain water because it has sugars to fuel muscles and brain, flavoring to encourage drinking, and sodium to hold fluid in the body and help replace sweat losses.



Be Prepared - High heat can overwhelm even physically fit and hydrated people. A week or two of moderate physical activity in the heat, say jogging 30-45 minutes a day, can jump-start heat acclimation. Athletes should never go from a sedentary, air-conditioned life into a hard-charging summer athletic activity.

Train, Don't Strain - Start slow. Athletes cannot safely start full tilt in stifling heat. Other than massive bleeding, exercising all-out in extreme heat is the greatest strain on the cardiovascular system. Pace and duration should "start low and build slow." Don't drive halfway to heaven on the first day.

Off-field Behavior - Off-field behavior also counts. Athletes sleeping poorly or ill, especially with vomiting, diarrhea, or fever, are more prone to heat stroke. The same applies to taking diuretics or drinking alcohol. Monitor all medications.

Pre-cooling - Athletes at risk of heat stroke may benefit from pre-cooling before workouts. A half hour in a cold bath will reduce core temperature and increase the buffer against heat stroke. Pre-cooling mimics Mother Nature in that after a week of daily exercise in the heat, basal body temperature is reduced by about 0.9 °F. Another benefit may be improved hot weather running or cycling. Using cold towels or splashing cold water on face, head, and neck provides a psychological boost but little physiological benefit.

TREATING HEAT STROKE

Medical Emergency - In heat stroke, every minute counts. When core temperature is very high, body and brain cells begin to die, so fast cooling is vital. Early features are subtle central nervous system (CNS) changes, altered cognition or behavior, and core temperature over 104-105 °F. When a patient collapses, the best gauge of core temperature is rectal temperature; oral, axillary, or ear-canal temperature will not do. Advanced features are collapse with wet skin, core temperature over 106-107 °F and striking CNS changes - delirium, stupor, seizures, or coma.

Cool First - Field treatment is fast cooling. No faster way to cool exists than dumping the patient into an ice-water tub. Submerge the trunk - shoulders to hip joints. Research suggests ice-water immersion cools patients twice as fast as air exposure while wrapped in wet towels. Recent field research with volunteer runners suggests cold water may cool as fast as ice water.

Monitor Closely - Check the patient every few minutes for rectal temperature, CNS status, and vital signs. To prevent overcooling, remove the patient from the tub when rectal temperature drops to 102°F. A patient can be cooled from 108 - 110 °F to 102 °F in 15 - 30 minutes.

Transport Second - Cool first, transport second. Send the heat-stroke patient to the hospital after cooling. With fast cooling, survival rate approaches 100%. In fact, fast cooling can allow patients to walk away in good health. For example, yearly at the Falmouth Road Race, up to 10 - 15 runners collapse with temperatures from 106 - 110 °F, but over a decade nearly all such runners, after ice-water immersion, walked away. After cooling, runners are observed for 20 - 60 minutes to ensure they are drinking fluids and have normal vital signs and good cognition.

Recovery - We need more data on recovery. Anecdotally, most runners cooled on-site return to racing in weeks. Some research suggests heat-stroke patients may have brief or lasting heat intolerance, but whether this is innate, or a result of the heat stroke is unclear. Other research suggests 90% of heat-stroke patients have normal heat tolerance within two months. It seems likely that most patients treated early for heat stroke and educated on preventing it can return safely to their activity within weeks.



SUMMARY

Many factors — environmental and personal — contribute to heat stroke. Early warning signs of impending heat stroke may include irritability, confusion, apathy, belligerence, emotional instability, irrational behavior, giddiness, undue fatigue, chills, goose bumps, and vomiting.

Practical tips for preventing and treating heat stroke in sports are outlined above.

The vital adage is “Cool First; Transport Second.” Research on recovery is sparse, but it seems likely that most athletes treated early for heat stroke can return safely to their sport soon after their heat stroke experience.

----- Keep  Smiling and Be  Safe! -----