It is common in Latin America to find recommendations and guidelines that have been developed in the United States of America or in Europe. People often question whether these recommendations are applicable to our region of the world. Aware of this need, the Gatorade Sports Science Institute brought together a group of Latin American scientists and practitioners, plus two other world-known experts, to discuss the current scientific evidence on the topic 'Physical activity in the heat: thermoregulation and hydration'. The following recommendations are the consensus from this two-day symposium; there is also a supporting document which discusses the major issues in more detail.

Recommendations for minimizing the risk of heat-related problems during physical activity

Consensus statement of the Board of Advisors in Science and Education of the GSSI in Latin America

Scientific evidence shows that regular exercise brings many health benefits, but hot humid conditions pose a major challenge to the body's ability to perform physical activity. Exercise performance is significantly reduced, and the risk of dehydration and heat illness is also increased. High heat stress conditions prevail in much of Latin America, so strategies are necessary to minimize the impact of these conditions on physically active people and on athletes.

1. **Exercise regularly.** Your health will benefit from regular physical activity, and reaching a higher level of physical fitness will improve your ability to tolerate heat stress.

2. **Adjust to your environment.** When it is hot and humid, exercise feels harder and performance is reduced. You can make your physical activity more comfortable by reducing time and effort devoted to warm-up, changing workout or competition strategy to reduce exercise intensity and/or duration and to have more frequent and longer breaks. Wear light, loose fitting clothing and look for cooler areas with shade or wind. Never exercise wearing plastic clothing: this does not help reduce body fat, but makes exercise more difficult and increases heat-related problems. Consider avoiding physical activity altogether in unusually hot or humid conditions, or exercise at cooler times of the day.

3. **Pay enough attention to heat adaptation.** Gradual exposure to heat, with shorter, lighter exercise sessions results in adaptations that will make exercise feel easier and will improve performance. One of those adaptations is an increased sweating rate which increases the need for rehydration.

4. **Stay well hydrated.**

   Water is a widely available fluid for rehydration, but beople do not usually drink enough to replace sweat losses during exercise. People will drink more of a well-formulated sports drinks than of plain water. Sports drinks should contain carbohydrate as an energy source, and electrolytes, especially sodium for more effective hydration. The addition of vitamins and other elements does not provide added benefits in sports drinks. Choosing a flavor you like makes it easier to meet your fluid needs. It is preferable to take cool beverages; they taste better and encourage fluid intake.

   Drink enough fluids before, during, and after your physical activity. Drinking 1 or 2 cups (8-20 oz, or 250 to 600 mL) of fluid at least two hours before exercise will help ensure you begin with a proper hydration level, and allows time for any excess fluid to be eliminated as urine. During exercise, drink 1-2 cups about every 15 min to match sweat loss, or as close to this as you can tolerate without feeling uncomfortable. Try larger volumes, and adjust the amounts of fluid according to your individual needs.

   After physical activity, you will have to drink more than you feel is necessary, because thirst is not a good guide under these conditions. You need to drink more than 1litre (4 cups) of fluid for every kg of weight lost. Because salt is lost in sweat, some salt (sodium and potassium) should be present in your beverage or in food eaten at this time.

5. **Physically active children, older adults, and pregnant women need extra care to prevent dehydration and heat illness.** Children may be more at risk of heat illness than adults: coaches and parents should take extra care in hot weather to ensure adequate opportunities for fluid intake. Older adults are likely to have lower levels of aerobic fitness and have a reduced capacity to control body temperature during exercise in the heat. They also have a lower thirst sensitivity, and must be encouraged to drink even when not thirsty.

   Pregnant women who are physically active should avoid excessively hot conditions while being careful to ensure an adequate fluid intake at all times.

6. **Many medical conditions present specific challenges to temperature regulation.** Exercise is a beneficial part of the treatment of many medical conditions, including diabetes, coronary disease and hypertension. Physicians may find it necessary to adjust the general recommendations in this document to meet the needs of individuals taking medication.

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