
WHEC
WARRIOR HEAT- AND EXERTION-RELATED EVENTS COLLABORATIVE
BEAT THE HEAT
USU
Uniformed Services University
CHAMP
Consortium for Health and Military Performance

It's time to take command of your health and safety during training and on missions.

Learn the recommended techniques, stay aware, and prioritize your well-being to protect yourself from heat- and exertion-related risks.

Use the strategies and tactics in this tool kit to **prevent and manage heat- and exertion-related events** and perform at your best.

WHEC Mission

WHEC strives to enhance knowledge sharing and research-based practices to prevent and manage exertional events, ultimately optimizing Warfighter readiness and facilitating return to duty.

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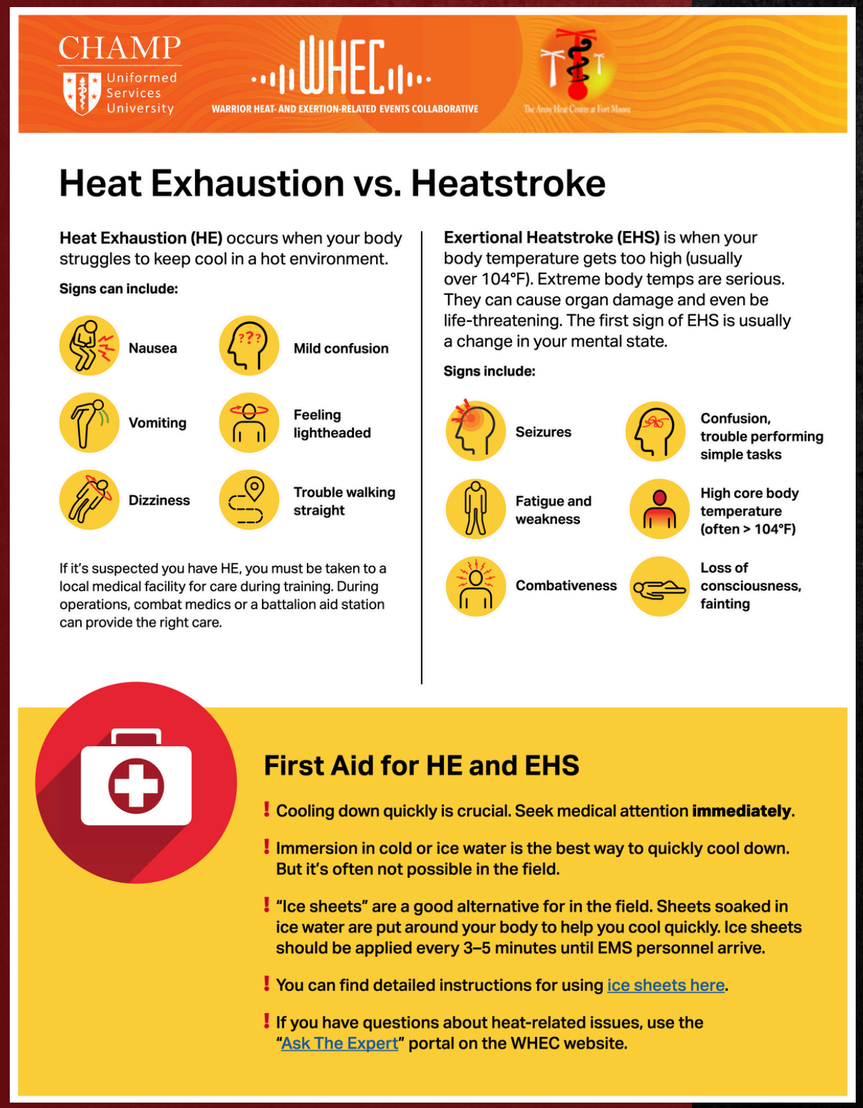
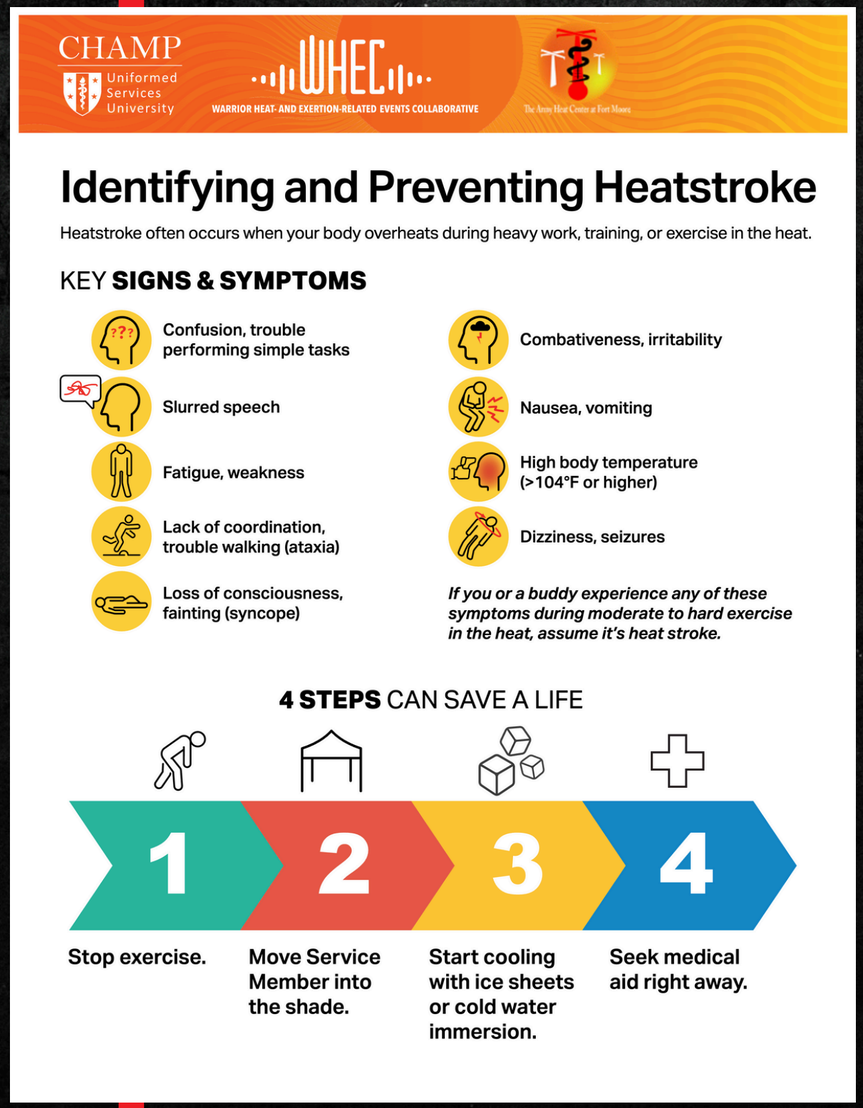
WHEC Mission Handout





Heat-Related Events

Learn about the different types of heat-related events, their symptoms, and how they can impact performance and health.

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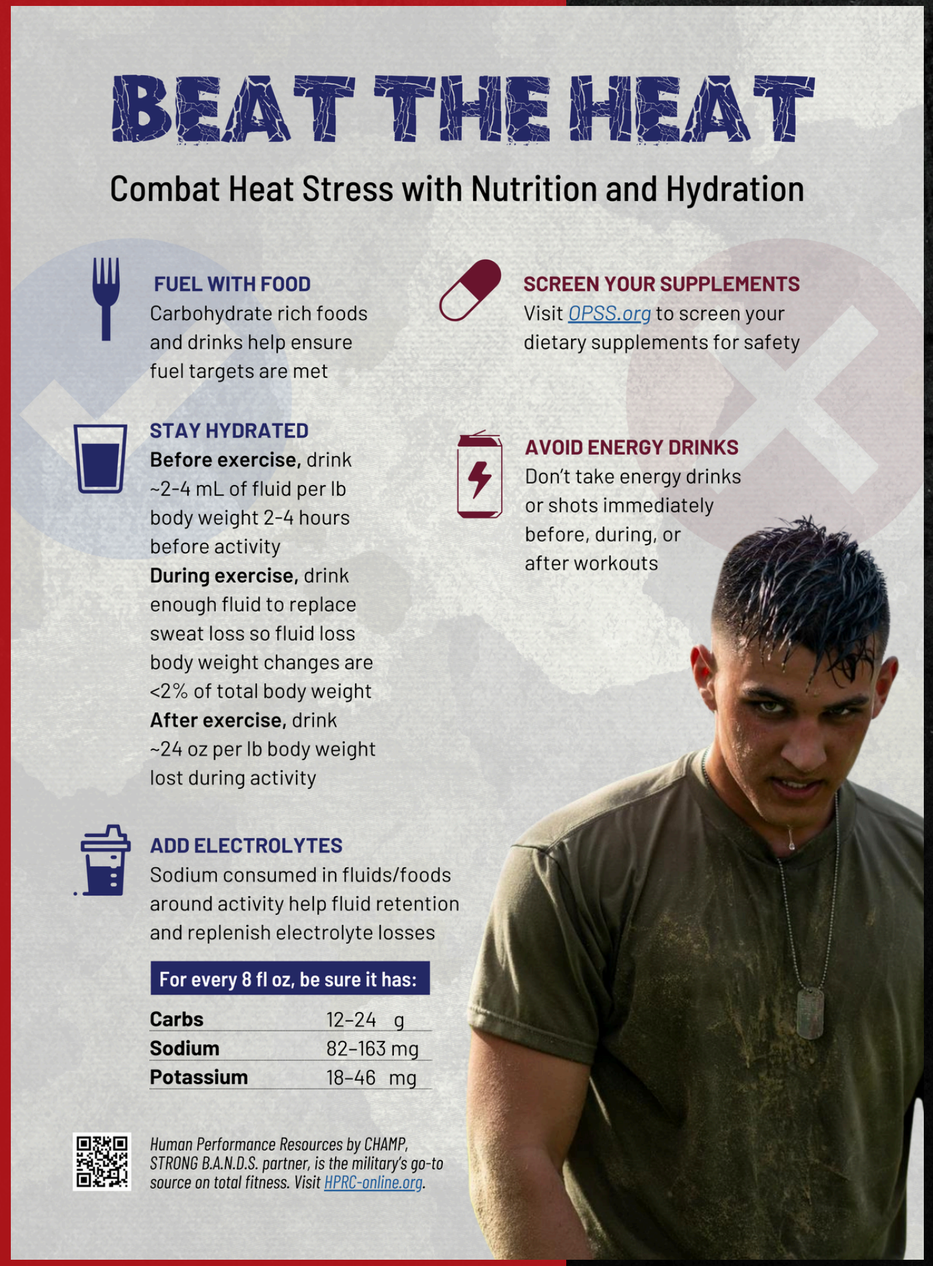
Heat Exhaustion vs. Heatstroke

Identifying and Preventing Heatstroke



Hydration Strategies

Discover the importance of proper hydration before, during, and after physical activity. Learn how to assess hydration levels and develop personalized hydration plans to stay safe and effective in demanding environments.

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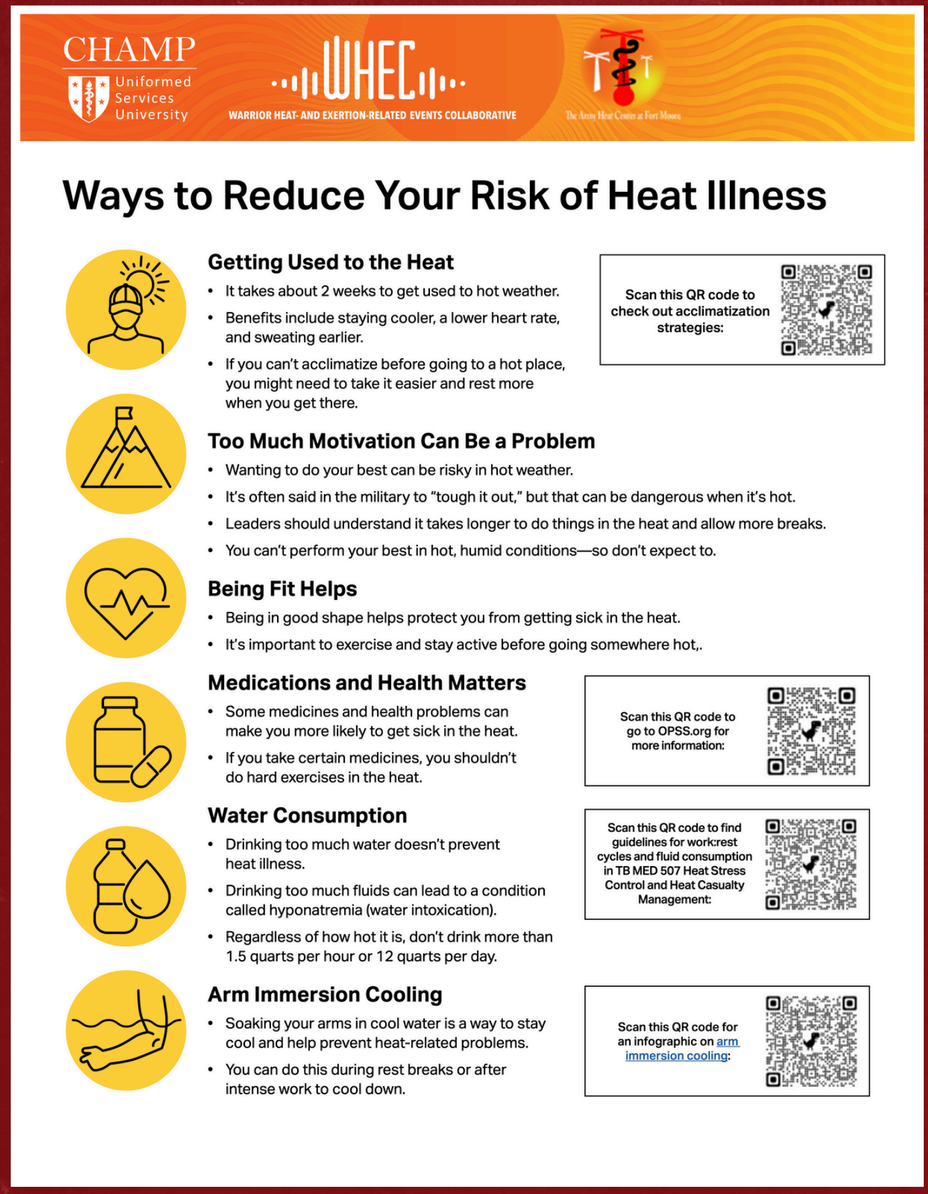
Beat the Heat: Combat Heat Stress with Nutrition and Hydration



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The Army Heat Center at Fort Moore

Ways to Reduce Your Risk of Heat Illness

Getting Used to the Heat

- It takes about 2 weeks to get used to hot weather.
- Benefits include staying cooler, a lower heart rate, and sweating earlier.
- If you can't acclimatize before going to a hot place, you might need to take it easier and rest more when you get there.

Scan this QR code to check out acclimatization strategies:

Too Much Motivation Can Be a Problem

- Wanting to do your best can be risky in hot weather.
- It's often said in the military to "tough it out," but that can be dangerous when it's hot.
- Leaders should understand it takes longer to do things in the heat and allow more breaks.
- You can't perform your best in hot, humid conditions—so don't expect to.

Being Fit Helps

- Being in good shape helps protect you from getting sick in the heat.
- It's important to exercise and stay active before going somewhere hot,.

Medications and Health Matters

- Some medicines and health problems can make you more likely to get sick in the heat.
- If you take certain medicines, you shouldn't do hard exercises in the heat.

Scan this QR code to go to OPSS.org for more information:

Water Consumption

- Drinking too much water doesn't prevent heat illness.
- Drinking too much fluids can lead to a condition called hyponatremia (water intoxication).
- Regardless of how hot it is, don't drink more than 1.5 quarts per hour or 12 quarts per day.

Scan this QR code to find guidelines for work:rest cycles and fluid consumption in TB MED 507 Heat Stress Control and Heat Casualty Management:

Arm Immersion Cooling

- Soaking your arms in cool water is a way to stay cool and help prevent heat-related problems.
- You can do this during rest breaks or after intense work to cool down.

Scan this QR code for an infographic on arm immersion cooling:

Exertion-Related Risks

Gain insights into the risks associated with overexertion during intense physical activities. Understand the signs of overexertion and learn strategies to prevent injuries and enhance endurance.

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Ways to Reduce Your Risk of Heat Illness

Environmental Awareness

Explore the influence of environmental factors such as temperature, humidity, and altitude on heat and exertion-related risks. Learn how to adapt training and mission strategies to mitigate these risks.

Read here and share

Military training and operations in the era of global warming

WHAT IS ARM IMMERSION COOLING?

An **Arm Immersion Cooling System (AICS)** can be any reservoir of cold water used to immerse the hands and forearms during rest periods or at the conclusion of strenuous physical work in warm environments.

AICS serves as a preventive measure and can reduce core temperature by **~0.10°F per minute**, so about **5 minutes of immersion yields 0.5°F reduction of core temperature.**

Water Temperature (Degrees)	Cooling Time* (Minutes)
> 80°F	Replace Water
71–80°F	12–15
55–70°F	8–12
45–54°F	5–8
35–44°F	3–5

*Times are calculated to achieve **~0.5°F reduction** in body temperature. Failure to maintain proper water temperature or immerse the arms for enough time will diminish the effectiveness of the device.

AICS COMPONENTS

While cooling systems are available commercially, they might not be available in every training scenario. Try other solutions instead.

- **Large cooler**
- **Large water trough**
- **Locally fabricated solutions**

AICS SETUP

1. Choose any insulated container that can hold at least **20 gallons of ice water** with enough space for immersion of forearms or arms.
2. Fill the container with 20 gallons of ice water.
3. Insert thermometer into ice water to monitor its temperature.

HOW TO USE AICS

1. Submerge hands and forearms (up to biceps) in ice water.
2. Keep hands and forearms submerged for the approximate amount of time and temperature range to accelerate body cooling.
3. Raise arms above head to allow water to drip down to core.

ICE-SHEET COOLING

Ice sheets can help reduce core temperature in Service Members showing symptoms of **exertional heat-related illness.**

HOW?

They can **quickly and efficiently** help cool the patient at a rate of **~0.16°F PER MINUTE**

PREP

1. **Fill ice chest with** **1/3 COOL WATER** and **2/3 ICE**

2. **Immerse bedsheet in ice water.** Use **5 sheets** per anticipated heat casualty.

TIP

If sheets aren't readily available, use a shirt, blanket, or any form of cloth that can be repeatedly dipped in ice water and placed on the casualty.

Depending on the risk assessment, maintain ice sheets at each training site, on an evacuation vehicle, or at your military treatment facility.

USE

- Remove casualty's clothing down to undergarments.
- Lay ice sheet down on litter or stretcher.
- Place casualty on top of ice sheet.
- Put wadded or rolled ice sheets on the patient's **groin**, (under) **armpits**, and (around) the **neck**.
- Drape an extra ice sheet over the top of the torso and legs.
- Rewet sheets every **3 minutes**.
- Continue cooling (even if casualty is shivering) until EMS arrives.

Visit us online to learn more:

Emergency Response

Gain essential knowledge on the immediate actions to take in case of a heat- or exertion-related emergency. Understand how to provide first aid, seek help, and facilitate prompt medical attention when needed.

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What is Arm Immersion Cooling?

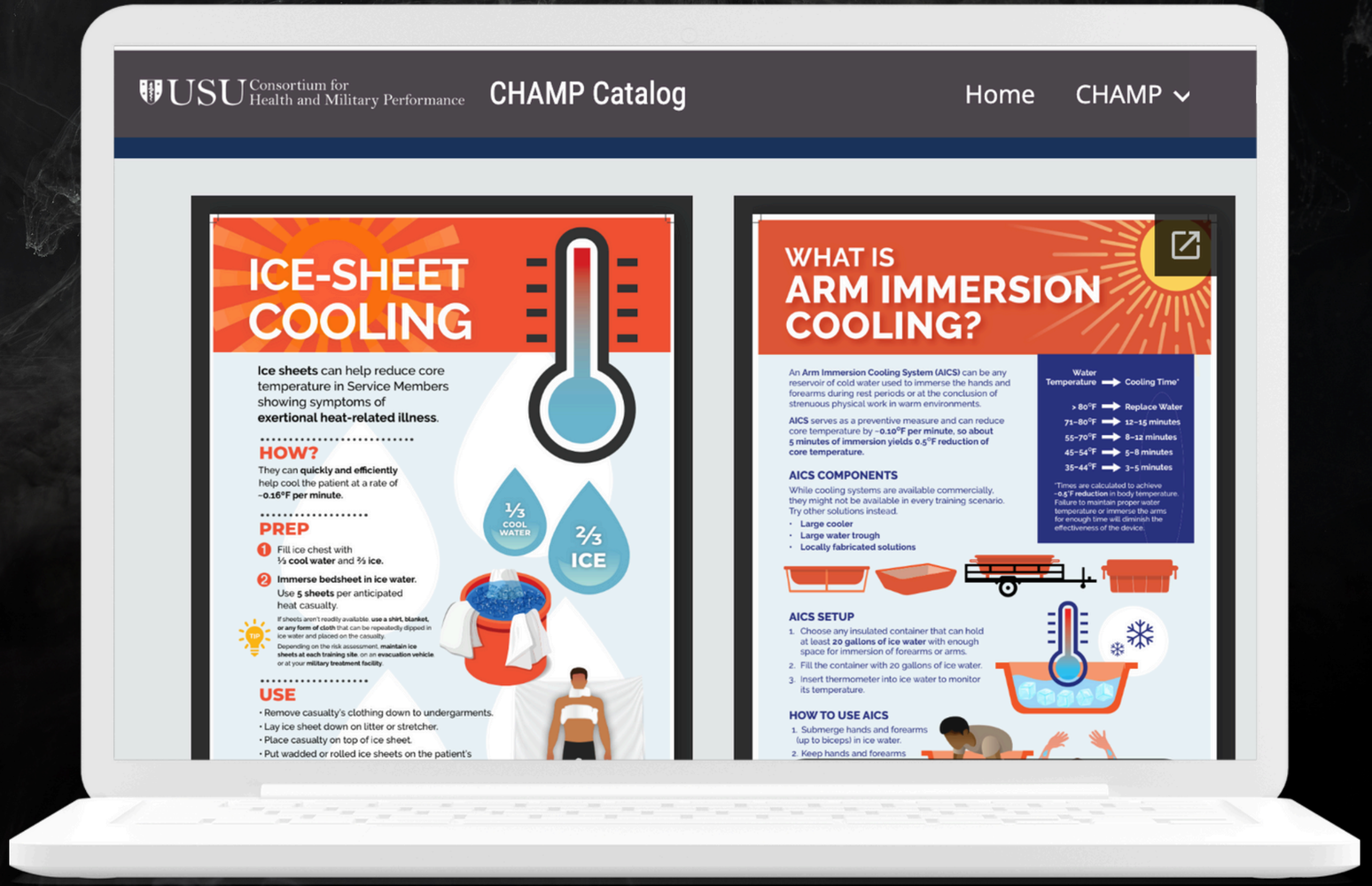
Ice-Sheet Cooling

ORDER POSTERS

Interested in receiving a poster to display in your facility? Visit the CHAMP Catalog to order.

CHAMP CATALOG

Don't see what you're looking for? Email **hprcnews@usuhs.edu**.

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