

Medical Review for Employees Exposed to Heat

During the medical and physical examination, specific concerns related to heat tolerance are

- water and electrolyte management (renal, endocrine and gastrointestinal functions)
- cardiac output and distribution to musculature and skin
- sweating (skin integrity and sweat gland function)
- thermal regulation (CNS and peripheral nervous system)
- previous episodes of heat-related disorders

Health History

- Cardiac
- Vascular
- Respiratory
- Neurologic
- Renal
- Hemologic
- Gastrointestinal
- Endocrine
- Skin (e.g., chronic damage, anhidrosis)
- Heat-related disorders (based on follow-up questions: single case of heat stroke (some people will report experiencing heat stroke when it is heat exhaustion), repeated episodes of heat exhaustion, or general reports of not tolerating heat well)

Prescription Medications (see annex for possible mechanism)

- Psychotropics
 - Phenothiazines
 - Tricyclic antidepressants (e.g., imipramine, amitriptyline, protriptyline)
 - Lithium
 - Amphetamines, cocaine, ecstasy
 - Haloperidol
 - Anticonvulsants
 - Others (e.g., MAOIs, benzodiazepines)
- Anticholinergics (e.g., benzotropine, trihexyphenidyl)
- Antispasmodics
- Antihistamines
- Diuretics
- Laxatives
- Calcium channel blockers (e.g., amlodipine, verapamil)
- Beta blockers (atenolol, betaxolol)
- Levothyroxine
- Anticholinergics (e.g., benzotropine, trihexyphenidyl)
- Narcotics
- Barbiturates
- Ergogenic stimulants (e.g., ephedrine/ephedra)
- NSAIDs (long term and/or high dose)

OTC Medications and Supplements

- Antihistamines

- Analgesics (high dose and/or long-term use) (e.g., acetaminophen (impaired liver function); aspirin and NSAIDs (impaired renal function))
- Laxatives
- Ergogenic stimulants (e.g., ephedrine/ephedra)

Drugs of Abuse

- Ethanol
- CNS stimulants such as amphetamines, cocaine, ecstasy
- CNS depressants such as barbiturates

Drug Annex

Prescription Drugs

Drug	Effect on Heat Tolerance
Phenothiazines	Impaired sweating, (possibly) disturbed hypothalamic temperature regulation
Tricyclic antidepressants (e.g., imipramine, amitriptyline, protriptyline)	Impaired sweating, increased motor activity and heat production
Lithium	Nephrogenic diabetes insipidus and water loss
Amphetamines, cocaine, ecstasy	Increased psychomotor activity, activated vascular endothelium
Haloperidol	Tachycardia, altered central temperature regulation, and hyponatremia
Other psychotropics as a general class (e.g., anticonvulsants, MAOIs, benzodiazepines)	Impaired thermoregulation
Antispasmodics	Impaired sweating
Anticholinergics (e.g., benzotropine, trihexyphenidyl)	Impaired sweating
Antihistamines	Impaired sweating
Analgesics (e.g., acetaminophen, aspirin, NSAIDs) (long term use)	Liver or kidney damage
Diuretics	Salt (sodium and/or potassium) depletion and dehydration
Laxatives	Dehydration
Calcium channel blockers (e.g., amlodipine, verapamil)	Reduced skin blood flow and reduced blood pressure
Beta blockers (atenolol, betaxolol)	Reduced skin blood flow, reduced blood pressure, and impaired sweating
Levothyroxine	Excessive sweating, salt depletion and dehydration
Anticholinergics (e.g., benzotropine, trihexyphenidyl)	Impaired sweating
Narcotics	Excessive sweating, salt depletion and dehydration
Barbiturates	Reduced blood pressure
Ergogenic stimulants (e.g., ephedrine/ephedra)	Increased heat production

Other-the-Counter Medications and Supplements

Drug	Effect on Heat Tolerance
Antihistamines	Impaired sweating
Analgesics (e.g., acetaminophen, aspirin, NSAIDs)	Liver or kidney damage
Laxatives	Dehydration
Ergogenic stimulants (e.g., ephedrine/ephedra)	Increased heat production

Other Drugs and Drugs of Abuse

Drug	Effect on Heat Tolerance
Ethanol	Diuresis, possible effects on intestinal permeability, impaired thermoregulation
CNS stimulants such as amphetamines, cocaine, ecstasy	Increased psychomotor activity, activated vascular endothelium, impaired thermoregulation
Central nervous system depressants such as barbiturates	Reduced blood pressure, impaired thermoregulation