



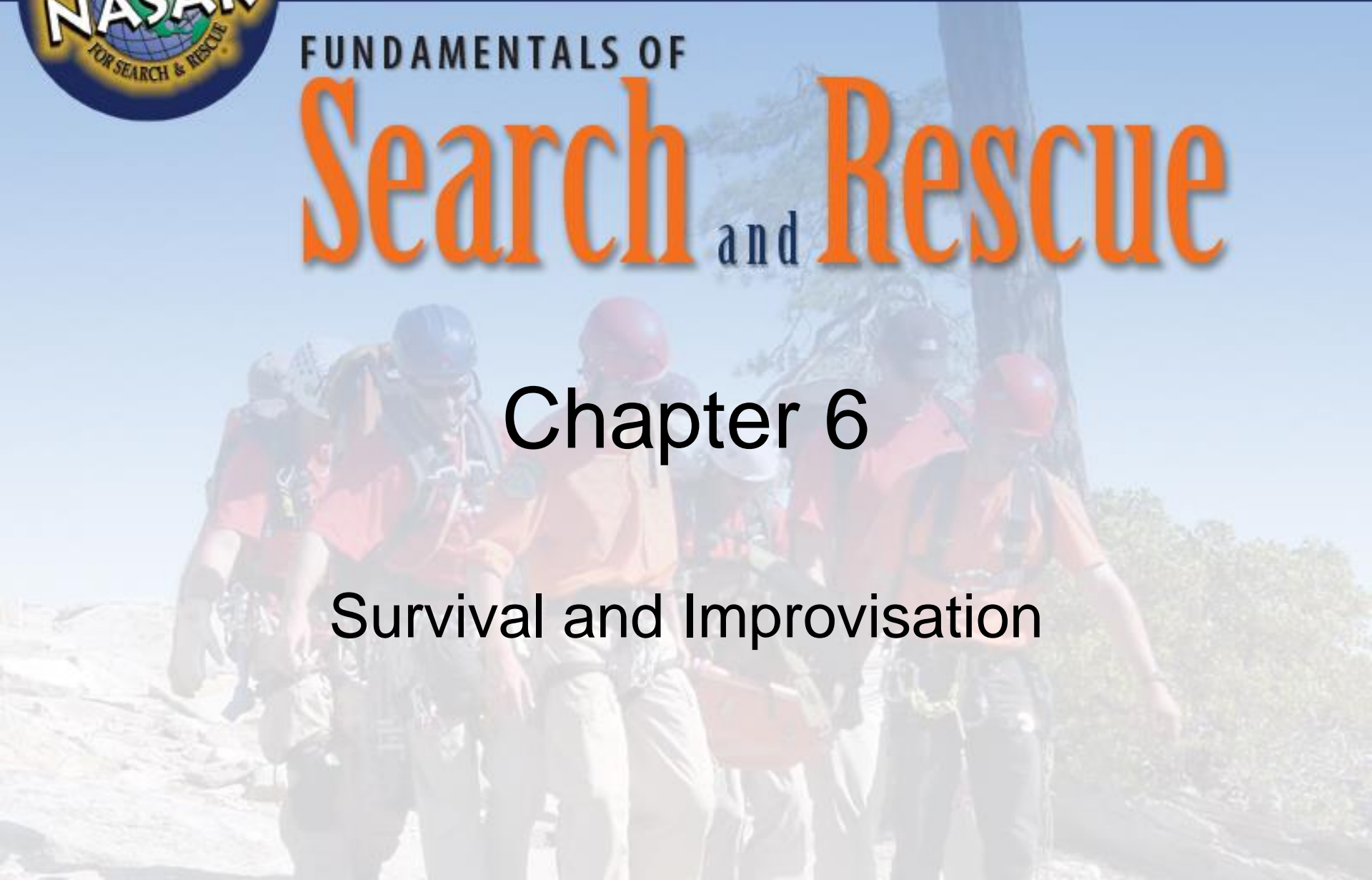
National Association for Search and Rescue

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Search and Rescue

Chapter 6

Survival and Improvisation





Objectives (1 of 3)

- List and prioritize the necessities of life.
- Describe the four parts of the initial response to a life-threatening situation.
- Demonstrate awareness of the term “comfort zone” and describe how it relates to SAR.
- List at least five ways to control fear.



Objectives (2 of 3)

- Explain the survival situation plan, STOP (stay, think, observe, plan).
- Define positive mental attitude.
- Differentiate between the requirements for short-term vs. long-term survival.
- List at least three basic considerations for shelters.
- List at least three methods of water purification.



Objectives (3 of 3)

- Describe methods used to construct a fire.
- List at least three basic considerations for signals.
- Describe some considerations in personal waste disposal.
- Describe three methods used for personal cleanliness in the outdoors.



What Is Survival?

- Survival means continuing to exist, by whatever means possible.
- Actions and needs must be prioritized in a survival situation.
- Those who operate on the outskirts of their comfort zones react better in emergencies.



Necessities of Life

- Positive Mental Attitude
- Air
- Shelter
- Fire
- Rest
- Signals
- Water
- Food



Positive Mental Attitude (PMA)

- Often overlooked but vital priority
- Will to live
 - An overwhelming urge to survive
- Whole person concept
 - Both mental and physical body processes

Air

- Breathing is essential to maintain life.
- A person can only survive a few minutes without oxygen.



Shelter

- In extreme conditions, a person can only survive a couple of hours without proper clothing or shelter.
- Shelter can be anything that protects the body.



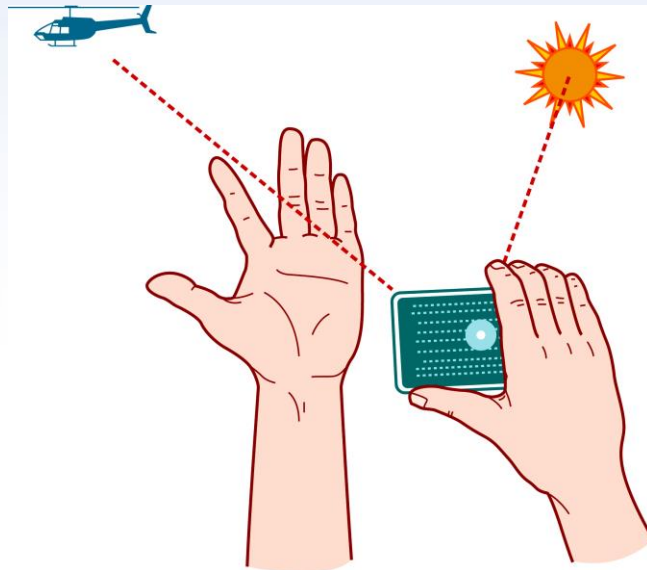


Rest

- Energy levels significantly impact ability to cope.
- Periods of rest:
 - Conserve energy for future use
 - Rid the body's tissues of waste
 - Allow time for reflection
 - Provide opportunity for mental rest

Signals

- If you are lost or immobilized
- Attract attention to yourself





Water

- The human body is two thirds water.
- Ration your sweat and activity, not your water.
- Extreme conditions without water can cut survival time to only days.





Food

- Most of us can live up to 3 weeks without food.
- Not a necessity for “short-term-survival.”
- In cold environments, additional calories may be needed to maintain body temperature.



The Rule of 3's

- Air 3 minutes
- Shelter 3 hours
- Rest 30 hours
- Water 3 days
- Food 3 weeks

Mental Aspects

- Mental preparation is vitally important!
- Emotions, adrenaline, and fear can affect SAR responders during a mission.





Response to Life-Threatening Situations

- Stage I Alarm
- Stage II Reaction
- Stage III Response/Options
- Stage IV Rest



The Comfort Zone

- Limits vary based on experience and knowledge.
- Anxiety and stress are created when people are forced outside their zone.
- Look for opportunities to expand your comfort zone.



Fear

- “No passion so effectively robs the mind of all its powers of acting and reasoning as fear.”

- Edmond Burke



How Do You Control Fear?

- Recognize it.
- Realize it can happen to you.
- Keep informed.
- Have procedures mapped out.
- Set realistic goals.
- Use affirmative self-talk.
- Remember teamwork.



Mental Steps of Managing an Emergency

- The Survival Situation Plan:
 - **S**top
 - **T**hink
 - **O**bserve
 - **P**lan



Shelter (1 of 6)

- Anything that protects us from the environment
- Our clothing is the first line of defense.
- Maintains the body's optimum temperature



Shelter (2 of 6)

- Three types of shelters:
 - Immediate action shelter: To protect you within minutes
 - Temporary shelter: Accessed within 30 to 60 minutes
 - Long-term shelter: 72 hours or more



Shelter (3 of 6)

- Options are limited by:
 - Imagination
 - Immediate needs
 - Available materials
 - Energy



Shelter (4 of 6)

- Build a shelter:
 - Simple and small
 - With minimal expenditure of time, energy, and body water
 - Appropriate to skills and ability
 - Designed to provide minimal body heat loss or gain



Shelter (5 of 6)

- Materials:
 - Use the resources around you.
 - Consider thermal conductivity and heat transfer.
 - “As it is used in nature, so place it on your shelter...”



Shelter (6 of 6)

Insulator	Conductivity
Air	1.0
Wood	3.5
Glass	7.0
Ice	7.0
Lead	145.0
Steel	1930.0
Aluminum	8600.0
Silver	17400.0



Firecraft (1 of 4)

- Ask yourself:
 - Do I need to start a fire?
 - Is it worth the energy?
 - Do I have the proper materials?



Firecraft (2 of 4)

- Location:
 - Never near or on dry fuel
 - Never on or near wet rocks
 - Never under snow-laden trees
 - Protect from wind and elements.

Firecraft (3 of 4)

- Your SAR pack should contain several fire starting devices.
- Sources
 - Friction and matches
 - Spark/heat producing devices





Firecraft (4 of 4)

- Fire materials:
 - Tinder
 - Kindling
 - Sustaining fuel



Signaling (1 of 2)

- Electronic/GPS
- Fire/smoke
- Mirror
- Noise
- Shadows on ground signals
- Color



Signaling (2 of 2)

- Basic principles of signaling:
 - Have signals ready for immediate use.
 - Know how to use them.
 - Bigger is better.
 - Hug a tree....stay put!



Water Purification Methods

- Boiling
- Iodine
- Bleach
- Purification tablets
- Camping-style purifiers



The Cat-hole

- At least 200 feet from campsites, trails, or water sources
- Dig at least 6 inches deep into organic soils.
- Cover with loose soil.



Personal Cleanliness

- Good hygiene prevents infections.
- Frequent bathing is strongly encouraged.
- Use biodegradable soap.
- “Air baths” can prevent chaffing.