ROYAL CANADIAN ARMY CADETS

SILVER STAR

INSTRUCTIONAL GUIDE

SECTION 5

EO M324.05 – DETERMINE WHEN TO SELF-RESCUE

Total Time: 30 min

PREPARATION

PRE-LESSON INSTRUCTIONS

Resources needed for the delivery of this lesson are listed in the lesson specification located in A-CR-CCP-703/PG-001, Chapter 4. Specific uses for said resources are identified throughout the instructional guide within the TP for which they are required.

Review the lesson content and become familiar with the material prior to delivering the lesson.

Prepare trail markings.

PRE-LESSON ASSIGNMENT

N/A.

APPROACH

An interactive lecture was chosen for this lesson to give background information on the factors to consider when deciding to break camp and search for help and generate interest in survival.

INTRODUCTION

REVIEW

The review for this lesson is from EO M224.01 (Identify Immediate Actions to Take When Lost, A-CR-CCP-702/PF-001, Chapter 14, Section 1).

FIVE ELEMENTS OF SURVIVAL

After successfully completing the S.T.O.P. action and recognizing a survival situation, the lost individual shall take inventory of all the food and equipment on hand and address the five elements of survival. The five elements of survival, listed in order of priority, are:

1. **Attitude.** Maintaining a positive attitude is essential. One can survive by staying calm, using all available resources, and prioritizing personal needs.

2. **Shelter.** A shelter is designed to provide protection from the weather and, depending on the conditions, protect a person from either hot or cold temperatures. Hypothermia and hyperthermia are two of the greatest dangers in a survival situation. A proper shelter can help prevent these from occurring. In a desert, for example, the goal is to stay under a shelter, shaded from the sun. In cold weather situations, the shelter will provide insulation.

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3. **Water.** Water is the most essential nutrient for the human body. Even when thirst is not extreme it can dull the mind. Lack of water will slowly degrade the ability to survive. With adequate shelter and water one can survive for weeks.

4. **Fire.** In a survival situation, fire provides heat and light, and signals for rescuers. Cold weather not only lowers the ability to think, but it also lowers one's will to do anything. A drop of a few degrees in body temperature can affect the ability to make reasonable decisions.

5. **Food.** Individuals in good physical condition can go for many days or even weeks without food. The goal in a wilderness survival situation is to be located in the shortest time possible, so in most cases one will be located before food becomes a survival issue. However, it is always important to prepare for the worst and find ways to supply the body with substance, such as berries, fish, animals, birds, etc.

QUESTIONS

Q1. What are the five elements of survival?

Q2. What is the one essential nutrient the body requires to function?

Q3. What does a shelter provide?

ANTICIPATED ANSWERS

A1. Attitude, shelter, water, fire and food.

A2. Water.

A3. Shelter provides protection from the weather and depending on the conditions, protects you from either hot or cold temperatures.

OBJECTIVES

By the end of this lesson the cadet shall be able to determine when to self-rescue.

IMPORTANCE

It is important for cadets to be able to make the decision to move from their survival site and search for help. The decision to move is crucial and there are many considerations before changing location.

Teaching point 1 **Discuss the Factors to Consider When Deciding to Self-Rescue**

Time: 10 min Method: Interactive Lecture



This TP is designed to introduce the cadets to the factors to consider when deciding to self-rescue.



It is usually easier to locate food and water supplies from a permanent base than constantly being on the move. The first choice is to stay put.

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Making the decision to self-rescue requires many considerations and should only happen as a last resort.

It is important to consider all the factors before leaving the survival site. When an analysis of the factors indicates that a site will not be able to provide resources critical to sustaining life, a move should be considered.

Behaviour in survival situations depends on the knowledge and attitude of the survivor. Hunters traditionally form the largest number of individuals lost. This is due to the adrenaline pushing them past their limits and being unprepared for adverse conditions.

Hikers and backpackers form the smallest group of lost individuals, yet they are prone to the hardships of being lost as they rarely carry survival equipment. This group typically goes out in good weather and gets stranded due to sudden storms.

FOOD AND WATER RESOURCES

Time Without Water

An area without water, or with a limited supply of water, will not be beneficial in the long run.

The body is estimated to be made up of two thirds water. Water is the most essential nutrient for survival and the human body can last just a few days without it.

During a normal non-strenuous day, a healthy individual will require 2 to 3 L of water. When physically active or in extreme hot or cold environments, that same person would need at least 4 to 6 L. Even when thirst is not extreme it can dull the mind. Lack of water will slowly degrade the ability to survive.

Drinking water wards off dehydration and environmental injuries. A person who is mildly dehydrated may become thirsty and become irritable and weak. As this becomes more serious, individuals will show a decrease in mental capacity and coordination.

In a survival situation, water is procured from the earth or from the sky, and sources can include surface water, groundwater, precipitation, condensation and plants.

Time Without Food

The human body can last for a few weeks without food. In a survival situation, energy must be conserved and food resources planned and monitored.

In general, the requirements for food should be de-emphasized. Do not eat if water is not available. If water is available, more food can be taken in to sustain the energy level.

Proper Nutrition

In a survival situation, getting the nutrients and vitamins a person needs is difficult. When choosing food sources, it is worthwhile to choose foods from four groups:

- carbohydrates,
- protein,
- fats, and
- minerals.

Carbohydrates. Easily digested foods that provide rapid energy. Fruits and vegetables are good sources of carbohydrates and should be checked for bug infestation before eating.

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Protein. Builds body cells. Fish, game and poultry are good sources of protein but should be cooked thoroughly before eating.

Fats. Slowly-digestable food that provides long-lasting energy. Animal fats, eggs and nuts are excellent sources in survival situations.

Minerals. Aid in building and repairing the skeletal system. Water provides adequate minerals in survival situations.



Alternative food sources can be found in EO C324.01 (Identify Animal and Insect Food Sources, Section 6).

FIRE AND SHELTER RESOURCES

Fire and shelter provides personal protection in survival situations; playing a vital role in protecting a cadet from the realities that can be dealt by nature. Fire and shelter serve many functions: removing the cadet from inclement weather, providing light, purifying water, drying clothes, warding off wildlife, and signalling. In addition, both fire and shelter reduce stress and keep the cadet comfortable.

It is important to have fire resources available in a survival situation. Hardwoods such as maple, ash, oak and hickory will burn longer and produce less smoke. If there are limited sources of hardwoods, softwoods can be used. Supplies will be used up quickly as softwoods burn hotter and faster.

As time passes and the need for wood dwindles the surrounding resources, survivors are required to go further and further to gather wood.



Information regarding shelter construction can be found in M224.04 (Identify Emergency Shelters, A-CR-CCP-702/PF-001, Chapter 14, Section 4), as well as M324.01(Construct an Improvised Shelter, Section 1).



Information regarding fire construction can be found in M224.05 (Prepare, Light, Maintain and Extinguish a Fire, A-CR-CCP-702/PF-001, Chapter 14, Section 5) as well as M324.03 (Light a Fire Without Matches, Section 3).

ENVIRONMENTAL DANGERS

Environmental dangers including weather, fire and wildlife will necessitate a move away from the danger.

HEALTH OF PARTY MEMBERS

The health and well-being of all members must be considered prior to moving. If the cadet is alone and injured, moving should be a last resort.

Before moving, procure enough food and water to last at least two weeks.

In survival situations, there is a risk of disease from staying in one spot for too long. Even if the strictest sanitary management is kept, there is still a risk of illness or disease.

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If injured members are staying behind, it is important to leave one healthy person behind to care for the injured and gather supplies.

RISK OF FURTHER INJURY

Moving will be necessary if there is risk further injury to members of the group. As members get weaker, the risk of injury increases. Areas where there are hills, cliffs and large rocks are dangerous areas because of potential slides and avalanches.

THE STAY OR GO DECISION

The decision to move away from the initial survival site is dependent on the many factors listed above; staying is the best scenario. Many lost people waste valuable energy and risk injury by panicking, running aimlessly, continuing to travel after dark, or walking in circles. If a lost person attempts to find their location, in most cases they will become more lost, increasing the distance between the last known point of their route. This wandering will only increase the size of the search area, time it will take for a rescue team to locate an individual or group. As long as there is no immediate danger, stay in one place.

Ideally, the survivor or group should establish a small area search. Complete the Star Compass Search to determine the decision to move.

Star Compass Search

To complete the Star Compass Search:

1. Visualize the starting point. Look around your current location. Make note of what is surrounding you such as obvious landmarks.

2. Mark the starting point using a stick or rock cairn.

3. Taking all your gear with you, walk 100 m (328 feet) in a straight line from the starting point along one of the cardinal compass points (N, S, E, W) and then back to the starting point.

4. Repeat step three for the remaining compass points.

5. Walk 200 m (656 feet) in a straight line from the starting point along one of the intercardinal compass points (NE, NW, SE, SW) and back again.

6. Repeat step five for the remaining compass points.

This will create a star pattern and allow the cadet to search the area for usable resources like water.

The decision to move will invariably depend on the survivors' experiences, knowledge and skills and answers to questions regarding:

- **Food and Water Resources.** Is there a water source? Are there food sources?
- **Fire and Shelter Resources.** Are there shelter-building resources? Is there wood for fire?
- **Environmental Dangers.** Is the area safe?
- **Health of Party Members**. Can everybody travel? Are there injured members who need to stay in one spot?
- **Risk of Further Injury.** Is there a risk of more injuries if we stay?

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CONFIRMATION OF TEACHING POINT 1

QUESTIONS

Q1. What is the most important nutrient the body requires?

Q2. How long can the human body last without food?

Q3. What factors should be considered when deciding to move?

ANTICIPATED ANSWERS

A1. The most important nutrient the body requires is water.

A2. The human body can last a few weeks without food.

A3. Factors to consider include food and water resources, fire and shelter resources, environmental dangers, health of party members and risk of further injury.

Teaching point 2 **Discuss Planning a Route to Search for Help**

Time: 5 min Method: Interactive Lecture



This TP is designed to introduce cadets to the factors for planning a route when the decision to self-rescue has been made.

When the decision to move has been made, it is important to leave signs that the group has been there and has decided to move.

Leaving a message or sign that the group has moved, will assist rescuers when they find the initial camp and try to follow the group.

IDENTIFYING DIRECTION

Determine Direction Using a Shadow Stick

In a survival situation one may not have a map of the area, a compass or a watch. It will be necessary to use natural phenomena, to determine direction. The sun can be used to find north using a branch or stick to cast a shadow on the ground.

A shadow stick works because the sun always travels east to west, even though it may not rise at exactly 90 degrees or set at exactly 270 degrees. The tip of the shadow stick's shadow moves in the opposite direction, so the first shadow tip is always west of the second, anywhere on earth. Improvised methods are only general indicators of direction. The shadow stick is more accurate and easier to read when the stick is narrow.



The line drawn in Figure 1 indicates the east-west line. The first mark made is west and the last mark made is east. A line perpendicular to the east-west line is a north-south line.

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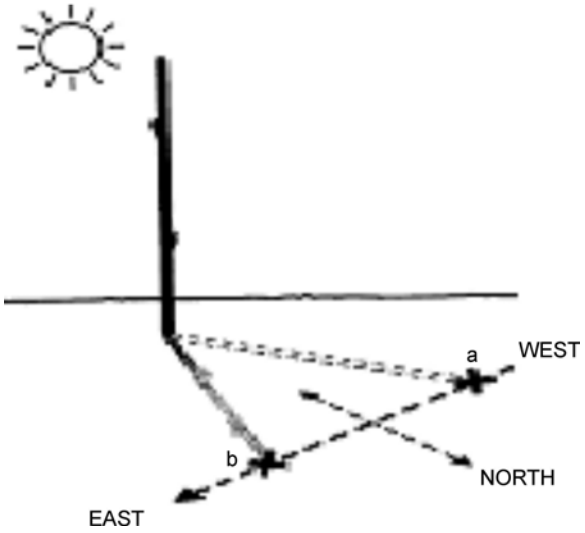
Steps to make a shadow stick:

1. Find a level, vegetation-free spot. Push the 45- to 60-cm straight stick into the ground about 10 cm so it will remain upright. Incline it by 5–10 degrees to get a longer, bigger shadow if necessary.

2. Mark the tip of the shadow with a stone. Wait until the shadow tip moves a few inches (10–15 minutes with a 45-cm stick).

3. Mark the new position of the shadow tip.

4. Draw a straight line from the first mark through the second mark, and about 30 cm past it.



J. Wiseman, The SAS Survival Handbook, HarperCollins Publishers (p. 353)

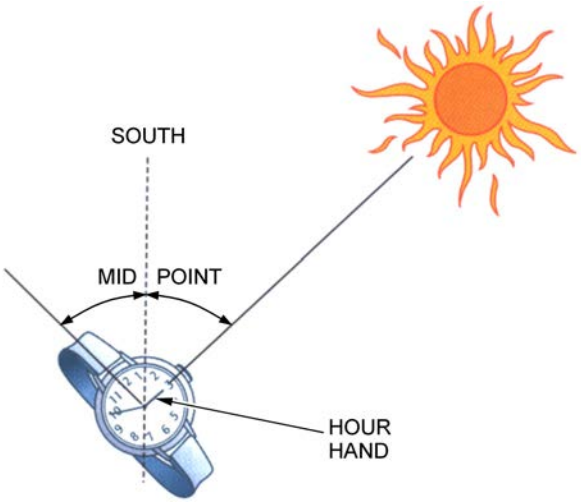
Figure 1 Shadow Stick

Determining Direction Using an Analog Watch

An analog watch can help determine direction using either standard or daylight savings time.

Point the hour hand towards the sun and determine the halfway point between the hour hand and 12 o'clock or 1 o'clock (daylight savings time). The halfway point indicates a north-south line (south in the northern hemisphere and north in the southern hemisphere).

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National Association of Search and Rescue, Fundamentals of Search and Rescue, Jones and Bartlett Publishers, Inc. (p. 76)

Figure 2 Analog Watch

FOLLOWING RIVERS

Following rivers will automatically increase survival because it provides the necessary life-support of water. Most waterways will lead to civilization, inland lakes or an ocean.

Rivers offer clearly defined routes to follow although there may be difficult terrain on the shorelines. Steep, rocky and slippery routes along the shore should be avoided. Following the general course of the river will bring the survivor to the same location.

A river cutting through level ground will be easier to follow and most likely have animal trails.

MAINTAINING DIRECTION

When a direction has been decided on, maintain it as best as possible. Choose a prominent feature in the distance and walk towards it.

In a group, use the relay system where one person moves forward, stops and rests and another takes over. This is both to maintain the direction and conserve energy.

Walking in a Straight Line

Indian Line. A group of hikers in an open area become landmarks themselves. Hikers are spaced so that the last individual is far enough back to see the leader and the line. The last person lines up the leader with the people in the line. When the leader deviates, they can be signalled to fall back into line.

A distant noise can be followed to reach a destination. Verify direction by cupping the ears and rotating the head to determine the direction of the highest sound intensity.

Estimating Distance

When walking in a straight line, the following table outlines the distances at which objects can be seen.

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DISTANCE	ITEM
40 m (132 feet)	Mouth and eyes are clearly distinguished.
90 m (295 feet)	Eyes are dots.
180 m (590 feet)	General details of clothing can be distinguished.
270 m (885 feet)	Faces can be seen.
450 m (1476 feet)	Colours of clothing can be distinguished.
700 m (2297 feet)	People look like posts.
1.5 km (4921 feet)	Trunks of large trees can be seen.
4 km (13 123 feet)	Chimneys and windows can be distinguished.
8 km (26 246 feet)	Large houses, silos and towers can be recognized.
10 km (32 808 feet)	Average height church steeples can be seen.

Following Animal Trails

Following animal trails will most likely lead to a water source. Animals have a set territory near suitable water sources and rarely stray from it.

Bushwhacking

Bushwhacking is the most difficult form of keeping direction. Brush, forests and shores can be quite dense and in warmer climates the vegetation along river shores gets more light and water and is able to grow thicker and stronger. This will inhibit the survivor's ability to move smoothly.

CONFIRMATION OF TEACHING POINT 2

QUESTIONS

Q1. What are two ways to determine direction?

Q2. What are the benefits of following rivers?

Q3. If one were to follow animal trails, where would they lead?

ANTICIPATED ANSWERS

A1. Using a shadow stick and an analog watch.

A2. The benefits of following rivers are they offer clearly defined routes and lead to civilization, inland lakes or an ocean.

A3. Following animal trails will most likely lead to a water source. Animals have a set territory that is near suitable water sources and rarely stray from it.

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Teaching point 3 **Identify Ways of Marking a Trail**

Time: 10 min Method: Interactive Lecture



This TP is designed to introduce cadets to marking a trail.

REASONS FOR MARKING A TRAIL

Most trails are marked coming and going so that they can be seen from both directions of travel. Trails are also marked to ensure the people using them do not get lost or rerouted.

Leaving and Returning to the Site

When searching for water or finding higher ground to build a signal fire, the survivor may have to walk for a kilometre or more. Marking will help to establish the route one can follow to return to the survival site.

Acting as a Guide to a Ground Search and Rescue Party

Signs on the ground will draw attention to any presence or past presence and the direction markers will help rescuers follow the survivor's trail.

TRAIL-MARKING TECHNIQUES

A large arrow to indicate the direction in which one is travelling. It should be visible from the air. Other direction markers can be interpreted at ground level. Direction markers could include:

- rocks or debris placed in an arrow shape;
- a stick left in a crooked support, with the top pointing in the direction taken;
- grasses tied in an overhand knot with the end hanging in the direction followed;
- forked branches laid with the fork pointing in the direction of travel;
- arrowhead-shape notches cut out of tree trunks indicating a turn;
- small rocks set upon larger rocks, with small rocks beside indicating the direction; and
- a cross of sticks or stones meaning 'Not this way'.

When travelling, continue to mark trails, not only for people to follow but to establish a route to retrace and guide someone who needs to go back on the trail.

Leave a message or sure signs that the group has moved. Hang them from tripods or trees and draw attention to them with markers.



Show the cadets the previously prepared marked trail with grass and rocks. Allow the cadets to ask questions.

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Trees

Trees are great for marking trails.

To mark a trail with branches:

1. Find a route to follow for 100 m (328 feet).
2. Gather branches which are already on the ground.
3. Place the branches along the route in the direction of travel for 100 m (328 feet).
4. Turn the branches around when returning to the starting point.
5. Return the branches to the environment.

Saplings

Saplings can be used to mark trails as they bend easily and can be contorted to indicate the direction of travel.

Long Grass

Long grass or straw can be tied together to indicate direction.

Cairns

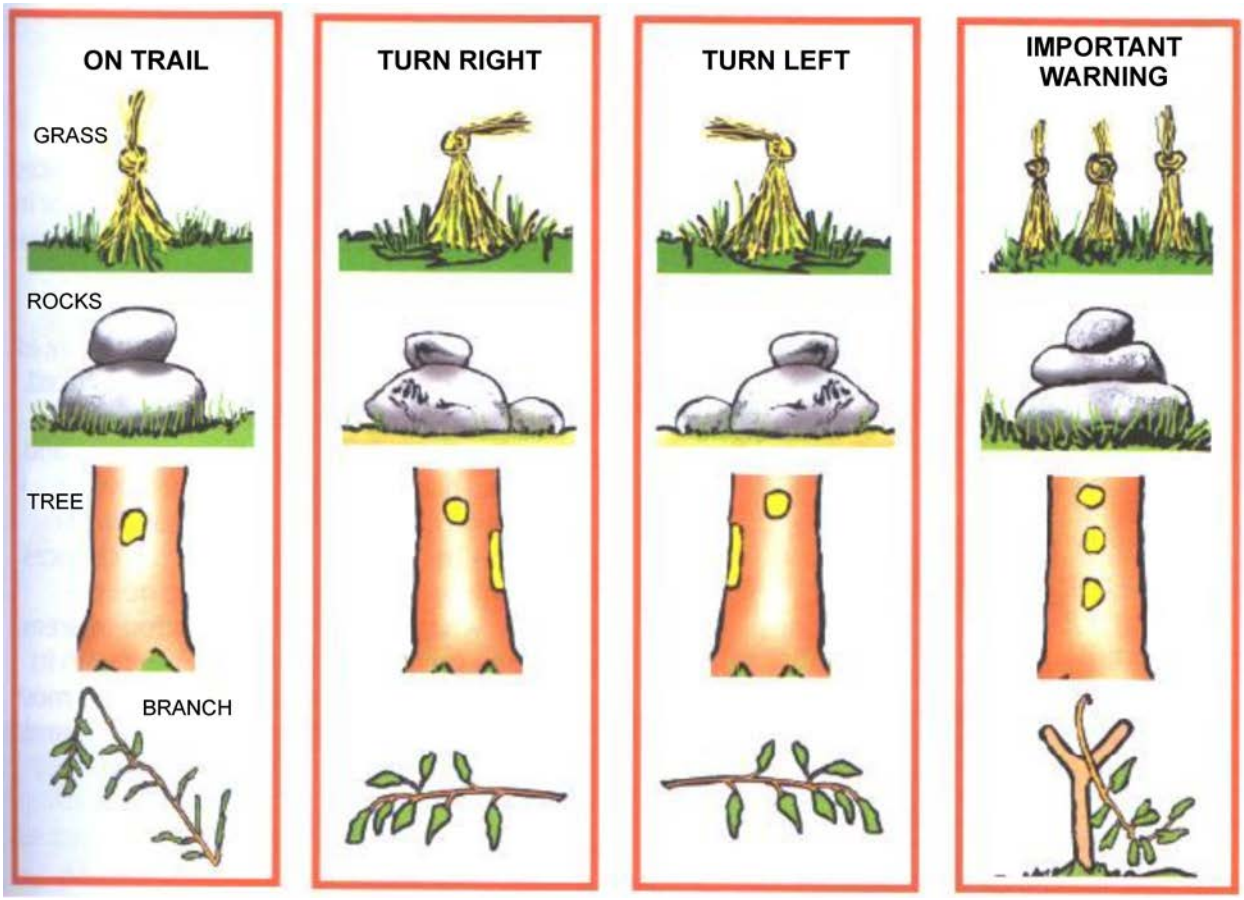
Cairns are piles of rocks used to illustrate where the trail leads. They vary in size from a small grouping of three or four rocks to large piles that can be seen in thick fog. When a trail is marked by cairns, they may be harder to locate than a marking at eye level because they are easy to miss being lower to the ground. Cairns should be used to mark a trail in rocky terrain.



K. Berger, Backpacking and Hiking, DK Publishing Inc. (p. 158)

Figure 3 Cairn

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P. Tawrell, Camping and Wilderness Survival, Paul Tawrell (p. 547)

Figure 4 Trail-Marking Techniques

CONFIRMATION OF TEACHING POINT 3

QUESTIONS

Q1. What are the different ways to mark a trail?

Q2. How is a trail marked with branches?

Q3. How is a trail marked in rocky terrain?

ANTICIPATED ANSWERS

A1. The different ways to mark a trail are with trees, saplings, long grass and cairns.

A2. To mark a trail with branches:

(1) Find a route to follow for 100 m (328 feet).

(2) Gather branches which are already on the ground.

(3) Place the branches along the route in the direction of travel for 100 m (328 feet).

(4) Turn the branches around when returning to the starting point.

(5) Return the branches to the environment.

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A3. Trails in rocky terrain are marked by cairns.

END OF LESSON CONFIRMATION

QUESTIONS

Q1. What are the factors to consider when deciding to self-rescue?

Q2. When planning a route to search for help, what are three things to consider?

Q3. What are some direction markers used when leaving a survival site?

ANTICIPATED ANSWERS

A1. Factors to consider include food and water resources, fire and shelter resources, environmental dangers, health of party members and risk of further injury.

A2. Identifying direction, following rivers and maintaining direction.

A3. Direction markers include:

- rocks or debris placed in an arrow shape;
- a stick left in a crooked support, with the top pointing in the direction taken;
- grasses tied in an overhand knot with the end hanging in the direction followed;
- forked branches laid with the fork pointing in the direction of travel;
- arrowhead-shape notches cut out of tree trunks indicating a turn;
- small rocks set upon larger rocks, with small rocks beside indicating the direction; and
- a cross of sticks or stones meaning ’Not this way’.

CONCLUSION

HOMEWORK/READING/PRACTICE

N/A.

METHOD OF EVALUATION

N/A.

CLOSING STATEMENT

There are many factors to consider when making a decision to move and search for help in survival situations. Knowing the considerations and what to do when moving will assist the cadet in finding help or being rescued quicker.

INSTRUCTOR NOTES/REMARKS

N/A.

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Verify against the official publication.

REFERENCES

A2-046 B-GG-217-001/PT-001 Director Air Operations Training (1983). *Down But Not Out*. Ottawa, ON: Department of National Defence.

C0-111 (ISBN 0-9740820-2-3) Tawrell, P. (2006). *Camping and Wilderness Survival: The Ultimate Outdoors Book* (2nd ed.). Green Valley, ON: Paul Tawrell.

C2-008 (ISBN 0-00-653140-7) Wiseman, J. (1999). *SAS Survival Handbook*. Hammersmith, London: HarperCollins Publishers.

C2-148 (ISBN 978-0-8118-3292-5) Davenport, G. (2006). *Wilderness Survival* (2nd ed.). Mechanicsburg, PA: Stackpole Books.

C2-163 (ISBN 0-9694132-0-3) Ferri, G. (1989). *The Psychology of Wilderness Survival*. Hanover, ON: Skyway Printing.

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