Abstract

Graff, Ruth A. *A Standardized First Aid Knowledge Test for Candidates to the Trollhaugen Ski Patrol, Dresser, Wisconsin.*
M.S. in Physical Education, 1978
Dr. Wayne Kaufman.

The purpose of this study was to construct a first aid knowledge test to be used to screen candidates to the Trollhaugen Ski Patrol. The test includes multiple choice questions covering all of the subject areas in the American Red Cross advanced first aid course. A pilot test was given to sixteen members of the Trollhaugen Patrol. On the basis of statistical analysis of this pilot test, a final test of one hundred questions was compiled.
Candidate: Ruth A. Graff

I recommend acceptance of this seminar paper in partial fulfillment of this candidate's requirements for the degree:

Master of Science in Physical Education

5/5/78

Date

Seminar Paper Advisor

This Seminar paper is approved for the School of Health, Physical Education and Recreation.

5/5/78

Date

Dean, School of Health Physical Education and Recreation
Acknowledgments

The writer acknowledges Dr. Ernest Gershon, Dr. Ralph Jones and Dr. Wayne Kaufman for their help and counseling in preparing this paper. A sincere thanks to the first aid instructors who supplied test questions and ranked the subject areas. Finally a special thanks to the sixteen members of the Trollhaugen Patrol who served as a pilot group.
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CHAPTER I

Introduction

Background

The National Ski Patrol System is a volunteer organization whose sole purpose is to serve the skiing public. Although ski areas are not required to have ski patrols, most of them do because of the good public relations it promotes, and to help minimize the risk of law suits. There are some national requirements for membership in a patrol, however, it is basically up to each local patrol to train and test candidates for membership.

The researcher, as a ski patrol member and a first aid instructor, has long been concerned with the first aid knowledge of candidates who wish to join the Trollhaugen Ski Patrol in Dresser, Wisconsin. It was with this interest and the statistical tools gained in courses titled Introduction to Research and Basic Statistics that the research project was formulated.

Statement of the Problem

The purpose of the study was to develop a comprehensive advanced first aid test to be given to candidates for membership in the Trollhaugen Ski Patrol.

Need for the Study

The dual purpose of the test was to determine the amount of first aid knowledge of candidates, and to serve as a guide for first aid instruction within the patrol.
It has become apparent to the researcher, after having spent many years teaching and testing first aid, that although all ski patrol candidates must have a current advanced first aid card, there is a great variation in the amount of knowledge that the candidates possess. Therefore, this patrol would like to set some first aid standards for its candidates. Part of those standards would be to pass the Trollhaugen Ski Patrol's written first aid test.

Delimitations

The pilot test was given to members of the Trollhaugen Ski Patrol. These people were considered experts because they all have a valid American Red Cross advanced first aid card and at least two first aid refresher courses. Basically, the test was designed for candidates at the Trollhaugen Ski area, but it could possibly be used by other ski areas with similar patrols.

Limitations

The test questions were obtained from first aid instructors who are also members of various ski patrols. These people were asked to contribute questions which they had previously used in testing advanced first aid knowledge. Therefore, the validity of their test questions may not have been determined. The subjects taking the pilot test were all volunteers thus, it is not a random sample. The number of people taking the pilot test may not be a sufficient number to provide sound statistical conclusions.
Definition of Terms

National Ski Patrol. A group of volunteer skiers organized as a service group for the skiing public.

Candidate. Any person who meets the following requirements.

1. Has a valid advanced first aid card from the American Red Cross.

2. Has been accepted by the patrol leader as qualified to become a member of the patrol.

3. Has paid their dues to the national organization.
II

have had a course in first aid. Since the American Red Cross is primarily responsible for first aid instruction, the researcher discussed testing procedures with several people working in first aid for the American Red Cross. It seemed to be the general consensus of opinion that although all persons instructed by the Red Cross are given comprehensive tests, it would be wise for any special interest group to re-examine prospective members to determine whether they meet the particular needs of that group. Chauncey and Dobbin (1963) stated that even the very best test is good only when used for its specific purpose with the kinds of students for whom it was intended.

Adkins (1974) lists the following features of a test.

1. The examinees recognize that they are in a situation in which their responses to stimuli are to be appraised.

2. The stimuli, developed by a teacher or by some other
test constructor, consist of artfully contrived questions or problems to which examinees are expected to respond.

3. Whatever responses are made are expected to be evaluated, by either the teacher or some other person.

4. From evaluation of responses of examinees, conclusions as to their current level of ability are reached, and predictions are made as to their future behavior and promise in related situations.

The textbook, Advanced First Aid and Emergency Care, (1973) by the American Red Cross was used as a basis for checking the correct answers to the test questions.

The selection of a multiple choice type question to be used in the test was not just an arbitrary choice. Ebel (1973) states that multiple choice test items are currently the most highly regarded and widely used form of objective test item. They are adaptable to the measurement of most important educational outcomes, knowledge, understanding, and judgement; ability to solve problems, to recommend appropriate action, and to make predictions.

These factors plus the ease of scoring and the information from Tuckman (1972) and Downie and Heath (1974) on statistical analysis of tests made this type of test item seem most appropriate.
CHAPTER III

Methods

Introduction

The purpose of the study was to construct an advanced first aid knowledge test for ski patrol candidates at the Trollhaugen Ski Area, Dresser, Wisconsin.

Sixteen members of the Trollhaugen Ski Patrol were used as subjects. All subjects took the test with no advanced warning that they would be tested. The test was given on March 4, 1978.

Procedure

The researcher asked the first aid instructors present at the fall regional ski patrol meeting to send her copies of advanced first aid tests that they had used in the past. The multiple choice type questions from these tests were then compiled according to subject areas.

A candidate for any ski patrol must have a valid advanced first aid card from the American Red Cross. Therefore, the subject areas for this test were selected from the Red Cross Advanced First Aid and Emergency Care book.

The researcher asked eleven first aid instructors present at a regional first aid test meeting to rank the subject areas. A list of the eighteen areas covered in advanced first aid was given to each instructor. As shown in Table I, they were asked to rank the areas numerically.
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<th>SUBJECT AREAS</th>
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<tbody>
<tr>
<td>Introduction to First Aid</td>
<td>1 2 3 4 5 6 7 8 9 10 11</td>
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<tr>
<td>Wounds</td>
<td>3 3 2 2 2 6 1 2 2 2 2</td>
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<td>Specific Injuries</td>
<td>9 9 8 5 4 7 7 8 9 4 13</td>
</tr>
<tr>
<td>Shock</td>
<td>6 5 3 4 3 5 3 3 8 9 3</td>
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<tr>
<td>Respiratory Emergencies and Artificial Respiration - CPR</td>
<td>2 8 1 1 2 2 1 3 1 1 1</td>
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<td>Drowning, Water Accidents and Resuscitation</td>
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<tr>
<td>Poisoning</td>
<td>4 14 14 6 13 17 9 17 14 15 9</td>
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<td>Drugs and Their Abuse</td>
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<td>Burns</td>
<td>10 12 13 13 12 11 15 5 14 13 11</td>
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<tr>
<td>Exposure to Radiation</td>
<td>15 18 16 15 16 15 16 12 16 17 15</td>
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<tr>
<td>Cold Exposure and Frostbite</td>
<td>8 6 6 7 8 4 4 10 10 5 5</td>
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<tr>
<td>Heat Stroke, Heat Cramps and Heat Exhaustion</td>
<td>16 10 17 8 17 14 17 11 15 18 16</td>
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<tr>
<td>Bone and Joint Injuries</td>
<td>7 2 4 3 5 1 10 6 7 3 4</td>
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<tr>
<td>Dressings and Bandages</td>
<td>5 4 5 16 11 3 12 16 5 8 6</td>
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<td>Sudden Illness</td>
<td>12 11 9 9 9 8 5 4 12 12 12</td>
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<td>Emergency Childbirth</td>
<td>17 17 18 17 14 12 18 15 18 10 17</td>
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<tr>
<td>Emergency Rescue and Transfer</td>
<td>11 7 11 12 6 10 6 13 6 6 8</td>
</tr>
<tr>
<td>Extrication</td>
<td>14 15 10 11 7 9 8 14 13 7 18</td>
</tr>
</tbody>
</table>

* Number one rank indicates area of most importance and number eighteen area of least importance.
The number of questions in each area was partially determined from the ranking by the first aid instructors. However, some consideration was also given to the length and depth of material covered in each subject area. At least one question from each of the eighteen subject areas was included in the test.

The test was then given to sixteen members of the Trollhaugen Ski Patrol. All of the subjects were volunteers and had no previous knowledge that they were going to be tested.

The reason for the test was explained to them and they were given a copy of the test and an answer sheet. They were asked to read and follow the instructions on the test copy, but not to write anything on the test. All answers were to be recorded on the answer sheet.

The answer sheets were then scored and analysed for test reliability, item discrimination and difficulty.

After studying the results of the test it was decided to shorten the test to one hundred questions. The one hundred eighteen question test appears in the appendix with the questions that were ultimately eliminated indicated by an asterisk.

The number of questions in each subject area is shown in Table II.
### TABLE II

NUMBER OF QUESTIONS FOR EACH SUBJECT AREA
IN THE ONE HUNDRED EIGHTEEN QUESTION TEST

<table>
<thead>
<tr>
<th>SUBJECT AREA</th>
<th>NUMBER OF QUESTIONS</th>
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<td>Introduction to First Aid</td>
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<tr>
<td>Wounds</td>
<td>13</td>
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<tr>
<td>Specific Injuries</td>
<td>12</td>
</tr>
<tr>
<td>Shock</td>
<td>7</td>
</tr>
<tr>
<td>Respiratory Emergencies and Artificial Respiration -CPR</td>
<td>25</td>
</tr>
<tr>
<td>Drowning, Water Accidents and Resuscitation</td>
<td>2</td>
</tr>
<tr>
<td>Poisoning</td>
<td>7</td>
</tr>
<tr>
<td>Drug and Their Abuse</td>
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<td>Burns</td>
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<tr>
<td>Bone and Joint Injuries</td>
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<td>3</td>
</tr>
<tr>
<td>Extrication</td>
<td>1</td>
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</table>
Statistical Treatment of the Data

Kendall's Coefficient of Concordance was used to determine the relationship among the ranks of the subject matter. Perfect agreement among the ranks would be indicated by a coefficient of one. The coefficient of the ranks of the subject areas by the instructors was .63. This indicated that there was an above average agreement among the instructors regarding the importance of the various areas.

The Kuder-Richardson measure of reliability for the one hundred eighteen question test was .827. Reliability coefficients of well made standardized tests tend to be high, .9 or above. The reliability of this test may have been affected by the fact that all of the members of the sample were experienced advanced first-aiders.

In a well constructed standardized test a question has satisfactory discriminating power if it has an index of .67 or more. The index of difficulty should fall between .33 and .67.

The results of the item analysis, as seen in Appendix A, revealed that a great many of the one hundred eighteen questions did not meet the best limits of difficulty and discrimination. This is probably due in part to the small number of people taking the test and the fact that those taking the test were all experienced in first aid and ski patrol work.

It was decided to reduce the number of questions in the test to one hundred. This was accomplished by removing the questions that were answered correctly by all sixteen people taking the
test. However, three questions falling into that category were rewritten and retained in the test because they were in subject areas that would not have been adequately covered if the questions were omitted.

The statistical analysis of the test can be seen in Table III.

**TABLE III**

RESULTS OF STATISTICAL ANALYSIS OF THE ONE HUNDRED-EIGHTEEN QUESTION TEST

<table>
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<th>Number taking test</th>
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<tr>
<td>Average Item Discrimination</td>
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<tr>
<td>Kuder-Richardson Measure</td>
<td>.827</td>
</tr>
<tr>
<td>of Reliability</td>
<td></td>
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</tbody>
</table>
CHAPTER IV

Results and Discussion

Introduction

The test constructed in this paper was designed to evaluate the advanced first aid knowledge of candidates to the Trollhaugen Ski Patrol. The results of the test will be used not only to determine the candidates' qualifications, but also to help the first aid instructors in deciding what areas of first aid to emphasize at the patrols' annual refresher. The members of the Trollhaugen Patrol who served as a sample seemed to feel that the test was worthwhile and definitely would help to improve the quality of the patrols' first aid. They also felt that if given to the entire patrol at next year's first aid refresher, it would act as a good springboard for discussing first aid issues.

Results

In considering the results of the pilot study it must be emphasized that a sample size of sixteen is not a satisfactory number to complete a thorough statistical analysis of all of the test items. However, it did serve as a basis for eliminating some of the original questions.

The results of the pilot test have shown that the reliability of the test is sufficient to make it worthwhile for the ski patrol.

It should be pointed out that the greatest number of questions came from the area of artificial respiration and Cardio-Pulmonary
Resuscitation. Also that a large number of these questions were answered correctly by all sixteen sample members. This is probably due to the fact that this is the area of first aid that the regional ski patrol officers have asked patrols to concentrate on this year. Therefore, it was given a lot of emphasis at this years' ski patrol first aid refresher.
CHAPTER V

Conclusions

Summary and Conclusions

In this study the primary objective was to construct a comprehensive first aid test that could be used to screen candidates to the Trollhaugen Ski Patrol. The ski patrol likes to have its members have an above average amount of first aid knowledge. They want to provide the best possible first aid care for the skiing public. It was felt that by eliminating the questions from the pilot test that were too easy, it would make a test that would be sufficiently difficult to adequately screen candidates. Therefore, eighteen of the question in the pilot test that were answered correctly by all sixteen members of the sample were eliminated from the test. The test consisting of one hundred questions will be used to screen candidates.

Recommendations

It is recommended that the one hundred item test could be given to a large number of ski patrol members from other ski areas and then analyzed statistically. This would enable the test to be improved in both validity and reliability. It could also be used to measure the first aid knowledge of the Trollhaugen Ski Patrol as compared to other patrols.
REFERENCES CITED
References Cited

Adkins, Dorothy C., Test Construction, Charles E. Merrill Publishing Company, Columbus, Ohio, 1974


## APPENDIX A

### RAW DATA

**ITEM DISCRIMINATION AND DIFFICULTY RATINGS OF THE ONE HUNDRED EIGHTEEN QUESTION TEST**

<table>
<thead>
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<th>Question</th>
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APPENDIX B

TEST
ADVANCED FIRST AID TEST

INSTRUCTIONS: Do NOT write anything on this test paper. All answers are to be recorded on the answer sheet that has been provided. Please read and follow the instructions given on the answer sheet. There is no penalty for guessing so you may attempt to answer all of the questions.

1. When performing rescue breathing on an infant, the rescuer need only blow small puffs into the victim's lungs. At what rate should this be done?
   a. 12 puffs per minute
   b. 16 puffs per minute
   c. 20 puffs per minute
   d. 24 puffs per minute
   e. one puff every 5 seconds

   * 2. In mouth-to-mouth resuscitation, tilting the head back is important because:
      a. air cannot enter the stomach
      b. it is easier for the rescuer to see the mouth and nose
      c. it extends the neck and lifts the tongue away from the back of the throat
      d. it is easier for the rescuer to reach the victim's mouth
      e. none of the above

   3. How many times per minute should artificial respiration be given to adults?
      a. 5
      b. 10
      c. 12
      d. 15
      e. 20

   4. When ventilating an adult you should breathe one every:
      a. second
      b. 5 seconds
      c. 8 seconds
      d. 12 seconds
      e. 15 seconds
5. In cardiac arrest, the rescuer first opens the airway and quickly ventilates the lungs how many times?
   a. one
   b. two
   c. four
   d. five
   e. six

6. The most common problem associated with external compression is:
   a. broken ribs
   b. broken xiphoid
   c. angle of Lewis fracture
   d. lacerated liver
   e. ruptured spleen

7. When two rescuers are giving CPR the compression ratio to ventilation ratio is:
   a. 1 : 5
   b. 15 : 2
   c. 5 : 1
   d. 2 : 15
   e. none of the above

* 8. In an adult the chest should be compressed how far during cardio-pulmonary resuscitation:
   a. 2 to 3 inches
   b. 1 to 2 inches
   c. 1⁄2 to 1 inch
   d. 1⁄2 to 1 inch
   e. none of the above

9. External cardiac compressions with one rescuer is done at the rate of:
   a. one breath to five compressions
   b. two breaths to fifteen compressions
   c. one breath to fifteen compressions
   d. two breaths to five compressions
   e. none of the above

* 10. Which of the following is the easiest method to open the airway:
   a. tilt the head back
   b. jaw thrust maneuver
   c. modified jaw thrust
   d. tilt the head forward
   e. finger sweep
11. What is the most important factor for successful resuscitation:
   a. airway opened
   b. breathing restarted
   c. circulation restored
   d. drugs administered
   e. heart defibrillated

12. Which of the following describes cardiovascular collapse:
   a. individual muscle fascicles of the heart beat independently
   b. the heart has stopped beating
   c. the heart is still beating, but its action is so weak the blood is not circulated
   d. the blood vessels have collapsed
   e. none of the above

13. When giving CPR the pulse is easiest to feel in which artery?
   a. femoral
   b. radial
   c. carotid
   d. pulmonary
   e. temporal

14. The greatest risk of death from heart attack occurs:
   a. immediately, within 10 minutes
   b. in the first hour or two after onset
   c. in the first day
   d. in the first 30 days
   e. in the first two months

15. Brain cells die:
   a. immediately when respiration and circulation stop
   b. 4-6 minutes after respiration and circulation stop
   c. 7-10 minutes after respiration and circulation stop
   d. 30 minutes after respiration and circulation stop
   e. 1-2 hours after respiration and circulation stop

16. Anatomic obstruction of the airway is interference with breathing caused by:
   a. solid food object
   b. an accumulation of fluids
   c. tongue dropping back
   d. a and b of the above
   e. b and c of the above
17. What particular point must a rescuer remember when placing a small child in the open airway position:

a. the child's head should be as far back as possible
b. a small child's neck is less flexible than an adult's

c. forcing the head back too far may result in a collapsed airway
d. children's heads must be flexed more than an adult's

e. the child's head should be turned to the side

18. When should the ventilator deliver the major portion of the breath during two-man CPR?

a. during the fifth downstroke
b. during the fifth upstroke
c. during the 15th upstroke
d. during the 15th downstroke
e. whenever possible

19. Infants and small children are ventilated in basically the same way as adults, except that the inflations are:

a. faster and more forceful for children
b. slower and more forceful for children
c. faster and less forceful for children
d. slower and less forceful for children
e. none of the above

* 20. Which of the following can cause failure to ventilate the victim's lungs adequately?

a. excessive air in the stomach
b. inadequate head-tilt
c. lack of an airtight seal
da. a and b of the above
e. all of the above

* 21. What should the rescuer do FIRST for an unwitnessed, unconscious non-breathing victim of an accident?

a. get him quickly to a hospital
b. give him a precordial thump
c. initiate cardiac massage
d. examine him for bleeding and fractures
e. open an airway
22. When giving artificial respiration to a victim with a stoma:
   a. both the nose and mouth must be sealed off
   b. the rescuer must be careful not to inflate the stomach
   c. it is not necessary to tilt the head backwards
   d. a much faster rate of breathing must be used
   e. b and d of the above

23. What is the first thing a rescuer should do when they see a victim clenching the neck between thumb and index finger:
   a. hit the victim on the back
   b. ask "Can you speak?"
   c. start CPR
   d. squeeze the victim
   e. open the victim's mouth and look for foreign objects

* 24. Victims suspected of having internal injury should be given:
   a. stimulants
   b. aspirin dissolved in water
   c. small sips of cold water
   d. small sips of warm water
   e. no fluids

25. When applying a tourniquet which of the following should NOT be done:
   a. wrap the tourniquet band twice around the limb
   b. place a short stout stick on the overhand knot
   c. twist the stick to tighten the tourniquet
   d. secure the stick in place
   e. cover the tourniquet

26. Wounds which involve forcible separation or tearing of tissue from the victim's body are:
   a. punctures
   b. incisions
   c. avulsions
   d. abrasions
   e. lacerations

* 27. When should deeply imbedded objects be removed by a first aider?
   a. always
   b. when infection may be apparent
   c. when in the chest
   d. when in the legs
   e. never
28. Swollen glands in the neck, armpit or groin usually indicate:
   a. appendicitis
   b. infection
   c. internal bleeding
   d. tetanus
   e. rabies

29. The special danger of a puncture wound is:
   a. severe bleeding
   b. rabies
   c. tetanus
   d. pneumonia
   e. none of the above

30. The first way to attempt to control severe bleeding is:
   a. digital pressure
   b. a tourniquet
   c. direct pressure
   d. elevation
   e. cold water

31. Once a tourniquet has been applied, it should be loosened:
   a. never by a first aider
   b. when profuse bleeding stops
   c. every 15 minutes
   d. every 30 minutes
   e. once every hour

32. Wounds which are caused by an object such as a tack or nail piercing the skin are which type of wound?
   a. puncture
   b. incised
   c. lacerated
   d. abraded
   e. avulsed

33. First aid for wounds not bleeding seriously include:
   a. washing with soap and water and applying sterile dressing and bandage
   b. liberal applications of antiseptics
   c. applying first aid cream
   d. applying a tourniquet
   e. applying vaseline
34. A pressure point used to control bleeding is:
   a. any point on the body above the wound
   b. a point where a blood vessel passes close to the surface
      of the skin over a bony structure
   c. a point at the center of the wound
   d. located in the foot
   e. none of the above

35. It helps to control or lessen bleeding to:
   a. apply hot packs to the wound
   b. alternately squeeze and relax pressure on the wound
   c. elevate the wound area
   d. a and c of the above
   e. b and c of the above

36. Loss of how much blood constitutes a threat to a person's survival:
   a. one pint
   b. two pints
   c. three cups
   d. one quart
   e. two quarts

37. First aid care for victims of shock include giving fluids:
   a. as soon as shock is suspected
   b. when medical help will be delayed for an hour or more
   c. only in the form of stimulants
   d. a and c of the above
   e. none of the above

38. Injury related shock is the same as:
   a. electric shock
   b. hysteria
   c. traumatic shock
   d. insulin shock
   e. anaphylactic shock

* 39. Shock may be caused by:
   a. prolonged vomiting
   b. hemorrhage
   c. drug poisoning
   d. internal injury
   e. all of the above
40. The degree of shock is increased by:
   a. pain
   b. rough handling
   c. delay in treatment
   d. abnormal changes in body temperature
   e. all of the above

41. When in doubt about what body position to use in treating for shock, the victim should be positioned:
   a. lying down
   b. on his side
   c. with feet raised 6 to 12 inches
   d. with head and shoulders raised
   e. sitting up

42. In the care of shock, the objective of providing warmth is to:
   a. increase body temperature
   b. decrease body temperature
   c. conserve body heat
   d. combat infection
   e. none of the above

43. The first step in the treatment of shock is to:
   a. give a stimulant
   b. lay the victim down
   c. apply ice packs
   d. call a doctor
   e. apply hot packs

44. First aid for a sprain includes:
   a. soaking in hot water immediately after injury
   b. applying cold, wet packs
   c. apply ice packs
   d. call a doctor
   e. apply hot packs

45. Which of the following is NOT included in the first aid for a dislocation:
   a. immobilizing the affected joint
   b. applying a sling
   c. reducing the dislocation
   d. securing medical attention
   e. elevating the affected part
46. A fracture of the shaft of the femur can be identified by which of the following:

a. the foot turned outward
b. the foot turned inward
c. a shortening of the injured leg
d. a and c of the above
e. b and c of the above

47. First aid for a fracture of the clavicle consists of:

a. applying a sling to elevate the victim's arm and shoulder
b. binding the arm to the victim's chest
c. leaving the ends of the fingers exposed
d. all of the above
e. none of the above

* 48. A sucking chest wound produced by a puncture should be covered with:

a. a gauze dressing
b. a piece of plastic or metal foil
c. a cravat
d. an antiseptic spray
e. none of the above

* 49. An uncomplicated break in the fibula alone is often not recognized if the victim has minimal pain because this is a non-weight bearing bone and is splinted naturally by the:

a. ulna
b. tibia
c. radius
d. femur
e. fibula

50. A victim with suspected pelvic injuries should be:

a. transported on his back
b. transported face down
c. transported on a backboard
d. a and b of above
e. a and c of above
51. Which of the following apply to putting a victim with a suspected neck fracture on a backboard:

   a. the victim's head and trunk should remain rigid as possible
   b. place a pillow under the victim's head
   c. place rolled-up clothing, blankets or sandbags around the head
   d. all of the above
   e. a and c of the above

* 52. The most important First Aid consideration when dealing with facial fractures is:

   a. deformity
   b. obstructed airway
   c. limited motion of the jaw
   d. pain
   e. disfigurement

53. First Aid for fractures include:

   a. restoration of bone ends to normal position
   b. immobilization of the fracture and adjacent joints
   c. elevation of the involved limb if possible
   d. all of the above
   e. b and c of the above

* 54. A fracture associated directly with an open wound is a:

   a. simple fracture
   b. closed fracture
   c. complicated fracture
   d. compound fracture
   e. none of the above

55. In mild sprains keep the injured part raised for at least 24 hours and:

   a. soak in hot water
   b. apply cold wet packs
   c. pack in ice
   d. immerse in water that contains ice
   e. rub the affected area

56. The displacement of a bone end from a joint is called a:

   a. sprain
   b. strain
   c. dislocation
   d. fracture
   e. rupture
57. First Aid for frostbite includes:
   a. massaging the affected area
   b. covering the frozen area
   c. giving the victim a warm drink
   d. all of the above
   e. b and c of the above

58. Frostbite should be quickly rewarmed at what temperature:
   a. 90-100°F
   b. 102-105°F
   c. 106-110°F
   d. 111-115°F
   e. 116-120°F

59. The frostbitten area of skin is:
   a. slightly flushed just before it freezes
   b. blue
   c. white or grayish yellow as frostbite develops
   d. a and c of the above
   e. none of the above

60. In case of deep frostbite, the affected part should be:
   a. rewarmed very slowly
   b. gently massaged to increase the skin temperature
   c. kept cold until ready for thawing and then rewarmed quickly in warm water
   d. rubbed with snow
   e. none of the above

61. First aid for a frostbite victim includes:
   a. warm slowly, start by rubbing with snow
   b. bring inside, warm as quickly as possible
   c. offer a hot alcoholic drink
   d. rub frozen area with wool
   e. encourage the victim to walk around and exercise

62. A definition of hypothermia is:
   a. body loses heat faster than it produces it
   b. extreme rapid breathing
   c. a condition whereby the body overheats
   d. unconsciousness caused by rays from the sun
   e. extremely high fever
*63. Blisters caused by friction from shoes should be:
   a. soaked in warm water
   b. protected from all pressure until fluid is absorbed
   c. covered with vaseline
   d. soaked in ice water
   e. removed with a sharp scissors

64. First aid for victim's with wounds of the abdomen include:
   a. having the victim lie on his back
   b. replacing protruding organs
   c. covering wounds with sterile dressings
   d. all of the above
   e. a and c of the above

65. Victims of sucking chest wounds should be transported:
   a. face down
   b. face up
   c. on the injured side
   d. on the uninjured side
   e. sitting up

66. Nosebleeds should be treated by which of the following:
   a. having the victim lie down
   b. pressing the bleeding nostril toward the midline
   c. applying cold compresses to the victim's nose
   d. all of the above
   e. b and c of the above

67. Scalp wounds should be:
   a. cleansed of foreign material
   b. covered with a sterile dressing
   c. covered with a tight pressure bandage
   d. a and b of the above
   e. none of the above

68. First Aid care for penetrating injuries of the eye include:
   a. make no attempt to remove the object
   b. wash the eye
   c. cover both eyes
   d. all of the above
   e. a and c of the above
69. In case of a perforated eardrum, the first aider should:
   a. apply a dressing
   b. clean the ear canal
   c. turn the victim onto the injured side
   d. all of the above
   e. a and c of the above

70. A conscious victim has cerebral spinal fluid running from his right ear after hitting his head. Which of the following should the first aider do:
   a. bandage the ear securely
   b. lie the victim on his right side
   c. lie the victim on his left side
   d. elevate the victim’s feet
   e. clean out the ear canal

71. For cuts and lacerations of the ear, first aid should include a sterile dressing applied with:
   a. firm pressure
   b. light, even pressure
   c. light, even pressure and raising the victim’s head
   d. an elastic bandage
   e. none of the above

72. To remove an object on the eyelid the first aider should:
   a. rub the eye
   b. use a cotton tip
   c. use the corner of a clean handkerchief
   d. cover the eye with cotton
   e. none of the above

* 73. Flail chest results from:
   a. multiple rib fractures
   b. heart fibrillation
   c. hyperventilation
   d. pneumonia
   e. lung congestion

74. Loss of consciousness resulting from a blow to the head is most serious when:
   a. the victim loses consciousness immediately
   b. the victim loses consciousness but regains it quickly
   c. the victim loses consciousness sometime after injury
   d. the victim is middle-aged
   e. the victim is young
75. When using a cravat to secure a dressing on the forehead where should the knot be tied:
   a. on the back of the head
   b. on the side of the head
   c. over the dressing
   d. under the chin
   e. on top of the head

76. Which of the following bandages would be best to secure a dressing on top of the head:
   a. cravat
   b. open triangular
   c. band-aid
   d. roller gauze
   e. tape

77. Triangular bandages may be used as a:
   a. cravat
   b. constricting band
   c. tourniquet
   d. all of the above
   e. none of the above

78. Care must be used when applying elastic bandages because:
   a. they are very expensive
   b. they may be stretched too tightly
   c. they can only be used once
   d. they do not conform to the body easily
   e. they are very hard to apply

79. Bandages used to secure a dressing on the jaw should:
   a. be tied under the chin
   b. be tied on top of the head
   c. be tied with a square knot
   d. be tied with a bow
   e. b and d of the above

80. Any substance which is free of germs is said to be:
   a. fresh
   b. sterile
   c. pure
   d. open
   e. sanitary
81. The material that is used to hold another substance over a wound is a:
   a. bandage
   b. dressing
   c. direct pressure
   d. tourniquet
   e. none of the above

82. If a victim is to be lifted by several people the first aider should devote himself to the:
   a. head
   b. feet
   c. area of greatest injury
   d. hips
   e. shoulders

83. If a person must be pulled or dragged to safety, he should be:
   a. pulled in the long axis of the body
   b. pulled sideways
   c. placed on a blanket or rug if possible
   d. a and c of the above
   e. b and c of the above

84. Arriving at an accident the first aider should immediately:
   a. start moving victims to safety
   b. check for broken bones
   c. determine cause of accident
   d. carry out life-saving techniques
   e. notify authorities

85. First aid for convulsions includes:
   a. keeping the victim from hurting himself
   b. placing a blunt object between the victim's teeth
   c. restraining the victim
   d. all of the above
   e. a and b of the above

86. The preferred method of removing a contact lens from a victim's eye is:
   a. slide the lens off the cornea to the side
   b. flush the eye with water
   c. lift it off the cornea, being careful not to scratch the eye
   d. gently rub the eye
   e. none of the above
87. To prevent fainting a person who feels weak or dizzy should:
   a. lie down
   b. pour water on his face
   c. drink a refreshing liquid
   d. all of the above
   e. none of the above

88. The lips and skin of a victim of carbon monoxide poisoning are:
   a. blue
   b. colorless
   c. cherry red
   d. gray
   e. black

89. Vomiting should NOT be induced when the victim has swallowed which of the following poisons:
   a. over dose of aspirin
   b. gasoline
   c. acids
   d. all of the above
   e. b and c of the above

90. The objectives(s) in first aid for poisoning by mouth is (are) to:
   a. dilute or neutralize the poison
   b. maintain respiration
   c. preserve vital functions
   d. seek medical help
   e. all of the above

91. How many glasses of milk or water should be given a conscious adult to dilute a non-corrosive ingested poison:
   a. one-half
   b. one
   c. two
   d. three to four
   e. none of the above

92. The most common poisonous gas is:
   a. carbon dioxide
   b. carbon monoxide
   c. chemical warfare agents
   d. fumes from sprays and liquid chemicals
   e. oxygen
95. The best method to remove ticks is to:
   a. apply heat
   b. use tweezers
   c. apply ice packs
   d. cover tick with heavy oil
   e. use a lighted cigarette

94. Serious poisoning may occur in a variety of ways; the most common is:
   a. inhalation
   b. on contact
   c. ingestion or swallowing
   d. getting stung
   e. none of the above

95. In the promotion of safety awareness, it is important to closely relate:
   a. cause
   b. effect
   c. prevention
   d. all of the above
   e. a and c of the above

96. Which of the following is NOT a "hurry" case:
   a. severe bleeding
   b. stoppage of breathing
   c. fractures
   d. poisoning
   e. heart stoppage

97. First aid includes:
   a. immediate care
   b. well selected words of encouragement
   c. demonstration of confidence
   d. knowing what not to do
   e. all of the above

98. A good rule to follow in first aid is to:
   a. have a reason for anything you do
   b. explain to the victim in detail the extent of his injuries
   c. hurry with the first aid so the victim can be rushed to the hospital
   d. all of the above
   e. none of the above
99. The best action for the first aider, in a situation involving a fallen "live" wire on a vehicle is:
   a. to open the car door and help the people out
   b. calm the occupants and get them to remain inside the vehicle until professional rescue workers arrive
   c. carefully break the rear window and have the passengers crawl out
   d. instruct the driver to drive on
   e. carefully break the windshield and have the passengers crawl out

100. A conscious burn victim may be given fluids if medical help cannot be obtained for:
   a. 15 minutes
   b. 20 minutes
   c. 30 minutes
   d. 45 minutes
   e. an hour or more

101. An alkali burn of the eye should be irrigated for at least:
   a. 10 minutes
   b. 15 minutes
   c. 20 minutes
   d. 30 minutes
   e. 40 minutes

102. First aid for burns includes:
   a. application of ice
   b. application of cold water
   c. application of dry dressing
   d. a and c of the above
   e. b and c of the above

103. First aid for second degree burns includes:
   a. breaking blisters
   b. removing charred clothing
   c. applying antiseptic preparations
   d. applying dry sterile gauze
   e. b and d of the above

104. Burns over a large area of the body may cause:
   a. a loss of plasma
   b. changes in balance of body fluids
   c. changes in body chemicals
   d. a and b of the above
   e. all of the above
105. Alkali burns of the eye are especially dangerous because:
   a. it causes the victim to rub the eye
   b. the alkali dries and leaves particles
   d. it is a progressive injury and the alkali continues to injure
   d. all of the above
   e. none of the above

106. Persons with third degree burns of the body have an extremely high mortality rate if how much of the body surface is burned:
   a. 10%
   b. 20%
   c. 30%
   d. 40%
   e. 50%

107. First aid for a victim of an overdose of narcotics include:
   a. arouse victim, if possible, by lightly slapping with a wet towel
   b. maintaining an open airway
   c. maintaining body temperature
   d. b and c of the above
   e. all of the above

108. The excessive or persistent use of a drug without regard to accepted medical practice is:
   a. drug misuse
   b. drug abuse
   c. drug dependence
   d. drug therapy
   e. none of the above

109. Alcohol is a:
   a. stimulant
   b. narcotic
   c. tranquilizer
   d. depressant
   e. barbiturate

110. The most important aspect in the first aid treatment of drug abusers is:
   a. find out what the victim has taken
   b. call the Dr. or poison control center
   c. maintain airway and respiration
   d. treat for shock
   e. find out where the victim got the drugs
111. A useful device for rescuing a victim who has fallen through the ice is:
   a. a plank
   b. a stout rope
   c. a human chain
   d. a ladder
   e. none of the above

112. A drowning person may be seen:
   a. floating face down on the surface of the water
   b. lying motionless underwater
   c. struggling in the water
   d. all of the above
   e. a and b of the above

113. Symptoms of heat exhaustion include:
   a. nearly normal body temperature
   b. white or pale skin
   c. high body temperature
   d. a and b of the above
   e. b and c of the above

114. First aid for heat stroke includes:
   a. quickly cooling the body
   b. sponging with cool water
   c. giving the victim stimulants
   d. all of the above
   e. a and b of the above

115. Symptoms of heat stroke include:
   a. high body temperature, skin red, hot, dry
   b. body temperature normal, skin white, pale, cool, clammy
   c. sweet breath odor
   d. very low body temperature
   e. dilated pupils of eyes, nose bleeding

116. First aid for a heat exhaustion victim is:
   a. cool body quickly, give no fluids
   b. cool body quickly, give small sips of water
   c. cool body very slowly
   d. do nothing - let nature work
   e. call an ambulance
117. First aid for victims of radiation exposure include:
   a. give life-saving emergency assistance
   b. secure pertinent information
   c. determine if physical injuries are present and treat
   d. all of the above
   e. none of the above

118. Which of the following are included in first aid for an emergency childbirth:
   a. give the mother tea, coffee, or other fluids and keep her warm
   b. do not attempt to cleanse the infant of the white, greasy protective coating covering the skin
   c. do not wash the baby's eyes, ears or nose
   d. a and b of the above
   e. all of the above