

1. Which of the following orthopedic traction techniques is generally used in children with a femur fracture?
 - a) Bernard's
 - b) Casio
 - c) Bryant's
 - d) All of the above

2. In Bryant's traction, the child's legs will be positioned _____ inches vertically above the bed.
 - a) 2
 - b) 4
 - c) 6
 - d) 8

3. The health care practitioner should always begin Bryant's traction with the _____ limb first in an effort to prevent rotation.
 - a) injured
 - b) uninjured
 - c) bilateral
 - d) Choose side; does not matter

4. Which of the following performance measures is the first step in applying Bryant's traction?
 - a) identify self to parents
 - b) Gather materials equipment
 - c) Explain procedure to parent(s)
 - d) Review physician orders

5. A Long Arm Hanging Cast is applied with the wrist in _____ degrees of dorsal extortion?
- a) 0-15
 - b) 15-30
 - c) 30-45
 - d) None; Wrist should be flexed
6. Long Arm Hanging Casts should be applied with the elbow in which of following position (s)?
- a) Full extension
 - b) 45 degrees Flexion
 - c) 90 degrees Flexion
 - d) Any of the above
7. A Long Arm Hanging Cast will accomplish which of the following when applied correctly?
- a) Eliminate wrist rotation
 - b) Allows free ROM of thumb & fingers
 - c) Eliminate ulnar/radial deviation
 - d) All of the above
8. During cast application, an exothermic reaction is/are:
- a) A response between water & fiberglass
 - b) safe & common occurrence
 - c) warm initially & will cool within 2-5 minutes
 - d) All of the above

9. In the application of the Long Arm Hanging Cast, the _____ of the goniometer should run parallel to the humerus.

- a) Fulcrum
- b) Stationary Arm
- c) Movable arm
- d) Axis of rotation

10. Which of the following is NOT appropriate when laminating casting materials?

- a) Press fingertips into cast
- b) Rub cast material in direction applied
- c) Continue rubbing until texture/tone changes to a dull appearance
- d) When performed correctly will assist in providing strength to cast

11. In the application of a fiberglass cast, which of the following is/are appropriate patient instructions on cast care?

- a) Instruct patient to call office with any concerns
- b) Provide cast care booklet
- c) Instruct patient to extend, flex & wiggle fingers
- d) All of the above

12. Buck's Leg Traction is applied with the patient in which position?

- a) Prone
- b) Side - lying
- c) Supine
- d) Any of the following

13. During final inspection following Bucks longitudinal traction, the healthcare provider should note that:

- a) the weight carrier is hanging freely
- b) all knots are secured
- c) all traction cords are center on track of pulley
- d) all traction cords are hanging freely without touching bed frame
- e) all of the above

14. Russell's traction involves the knee supported and suspended off the bed maintained at _____ degrees of Flexion.

- a) 0-15
- b) 25-35
- c) 15-25
- d) 90

15. In the Dunlop traction technique, the arm is maintained at _____.

- a) 25 degrees
- b) 45 degrees
- c) 90 degrees
- d) Full extension

16. Dunlop's traction incorporates a canvas sling placed over the _____ muscle.

- a) Biceps
- b) Deltoid
- c) Pectoralis major
- d) Rectus Abdominus

17. Which of the following is NOT an appropriate performance measure with Dunlop's tractions?

- a) Capillary refill assessment
- b) Patient jewelry should be removed
- c) Patient should be resting on bed
- d) Nelson finger exercises may be incorporated

18. Pelvic traction is applied with the patient in which of the following positions?

- a) Prone
- b) Side lying
- c) Recovery
- d) Supine

(p. 44; ¶ 1)

19. During cervical traction set up, the padded adjustable head halter is secured to the _____ region & chin of the patient

- a) Occipital
- b) Frontal
- c) Temporal
- d) Any of the above are acceptable

20. Cervical traction is indicated for which of the following diagnoses?

- a) Whiplash
- b) Cervical strains
- c) Degenerative spine disorders
- d) All of the above

21. According to the readings, how is the bed positioned during cervical traction to alleviate muscle strain?

- a) Lowered
- b) Elevated
- c) Neutral (does not move)
- d) Position of patient comfort

22. Following proper traction setup, which of the following statement(s) is/are NOT accurate when checking patient capillary refill?

- a) Nail beds will turn white
- b) Nail beds will turn pink
- c) 3-4 second delay is not concerning
- d) All of the above are indicators of good capillary refill.

23. Antecubital (Cubitum) space is located at the:

- a) volar aspect near wrist
- b) bend of the elbow
- c) dorsal aspect of elbow
- d) olecranon process

24. In the application of a Short Arm Cast (SAC), the wrist is place in _____ degrees of dorsal extension.

- a) 0-15
- b) 15-30
- c) 30-45
- d) 45-90

25. According to the readings, which of the following is/are accurate regarding appropriate water temperature for fiberglass application?

- a) Tepid
- b) Room Temp
- c) 70-80 degrees
- d) All of the above

26. Stockinette is generally used for all casts EXCEPT:

- a) Recent surgery
- b) Recently reduced fracture
- c) Technician preference
- d) Per physician directive
- e) All of the above

27. The _____ aspect of the arm is located palm side of the hand/forearm?

- a) dorsal
- b) superior
- c) volar
- d) inferior

28. The _____ palmar crease is the furthest diagonal line on the volar aspect of the hand.

- a) proximal
- b) medial
- c) distal
- d) lateral

29. All hand casts are applied absent of which of the following?

- a) supination
- b) pronation
- c) radial deviation
- d) ulnar deviation
- e) All of the above

30. Which of the following is/are indications for cast removal?

- a) Marked indentation
- b) Increased pressure felt by patient
- c) "Hot Spot" sensation
- d) All of the above

31. In a short arm cast, the _____ mold is used to prevent movement of the wrist in the cast.

- a) Interosseous
- b) Palmar
- c) Olecranon
- d) Arch

32. The short arm cast is applied _____ inch distal to the antecubital space.

- a) 1
- b) 2
- c) 3
- d) 4

33. The short arm cast will:

- a) allow complete elbow flexion & extension
- b) Restrict wrist movement
- c) Allow full ROM at thumb
- d) Minimize forearm rotation
- e) All of the above

34. The distal edges of the short arm cast rest on the:

- a) volar side of distal palmar crease
- b) base of MCP joints
- c) base of thumb proximal to snuff box
- d) All of the above

35. A Muenster cast is applied _____ inches proximal to the elbow.

- a) 1
- b) 2
- c) 3
- d) 4

36. The Muenster cast is applied _____ inch to the antecubital (cubitus) fossa.

- a) 1
- b) 2
- c) 3
- d) 4

37. Which of the follow is NOT an accurate ROM statement in the application of a Muenster cast?

- a) Allows complete elbow flexion
 - b) Restricted elbow extension
 - c) Full ROM at thumb and Fingers
 - d) Ulnar/Radial deviation eliminated at wrist
38. While body fossa molding a Muenster Cast, the _____ mold will prevent rotation of the forearm.
- a) Interosseous
 - b) Palmar
 - c) Superacondylar
 - d) Inner bicipital
39. In the application of a long arm cast, the elbow is placed at a _____ degree position.
- a) 0
 - b) 45
 - c) 90
 - d) 135
40. Long Arm Cast immobilization extends from the distal palmar crease/MCP joints to _____ inches distal to the axilla.
- a) 1
 - b) 2
 - c) 3
 - d) 4
41. A Long Arm Cast will restrict all of the following EXCEPT?

- a) Thumb and finger ROM
 - b) Pronation/Supination
 - c) Radial/ulnar deviation
 - d) Forearm rotation
42. Which of the following position(s) is/are appropriate in the application of a long arm cast?
- a) Supine
 - b) Sidelying
 - c) Sitting
 - d) a & c
43. Which of the following devices may be warranted in the application of a Long Arm Cast?
- a) Turnstile stand
 - b) Finger Trap
 - c) Humeral Pulley
 - d) All of the above
44. Placing the thumb and forefinger in opposition to one another assists the patient to maintain a neutral wrist position. This is commonly referred to as the can of _____ position.
- a) Lindeman
 - b) Pepsi
 - c) Coke
 - d) Conkle

45. In the application of a long arm cast, the _____ mold is used to prevent movement of the humerus in the cast.

- a) Bicipital
- b) Interosseous
- c) Supracondylar
- d) Subscapular

46. What is the recommended position for the application of a long leg cast?

- a) Standing
- b) Sitting/supine
- c) Side lying
- d) Prone

47. A long leg cast is applied _____ inches distal to the groin area.

- a) 2
- b) 4
- c) 6
- d) 8

48. The ankle is dorsiflexed at a _____ degree angle while applying a long leg cast.

- a) 0
- b) 45
- c) 90
- d) Any of the above is appropriate

49. The knee is flexed between _____ degrees while applying a long leg cast.

- a) 0-15
- b) 15-30
- c) 30-45
- d) 45-90

50. Which of the following method(s) is/are appropriate for maintaining the patients ankle/leg while applying a long leg cast?

- a) Patient could attempt to maintain position
- b) nurse/family member may assist
- c) T-stand
- d) Thigh stand
- e) All of the above

(p. 103; ¶ 4)

51. In a long leg cast application, aligning the 2nd and 3rd phalanges with the knee will accomplish which of the following?

- a) Reduces inversion
- b) Maintains femoral external rotation
- c) Reduces eversion
- d) a & c only

52. While applying a long leg cast, a flat board can be used to mold the _____.

- a) Gastrocnemius
- b) Medial/lateral malleolus
- c) Femoral condyles

d) Talar cove

53. The application of the Long Arm Cylinder cast should include the elbow flexed at _____ degrees.

- a) 45
- b) 90
- c) 135
- d) 180

54. A long arm cylinder cast is applied 1 inch proximal to the _____ styloid.

- a) Ulnar
- b) Radial
- c) Axillary
- d) a & b only

55. In the long arm cylinder cast, which of the following molds is used to prevent movement of the elbow?

- a) Interosseous
- b) Palmar
- c) Bicipital
- d) Tricipital

56. According to the readings, a long leg cylinder cast is applied in which of the following positions?

- a) Sitting
- b) Supine

- c) Side-lying
- d) Prone

57. The long leg cylinder cast is applied _____ inches proximal to medial malleolus.

- a) 1
- b) 2
- c) 3
- d) 5

58. Which of the following factors is/are considered when applying a long leg cylinder cast?

- a) Applied 4" distal to the groin
- b) Flared 2" proximal to greater trochanter
- c) Knee flexed to 0-15 degrees
- d) Ankles and toes have full ROM
- e) All of the above

59. Of the following considerations, which is NOT accurate in the application of a long leg cylinder cast (LLCC)?

- a) LLCC has a low incidence of slippage
- b) All jewelry should be removed
- c) check patient's capillary refill
- d) measure patient's injured knee with goniometer
- e) Laminate the fiberglass casting materials

60. Short Leg Cast (SLC) is applied _____ inches distal to the popliteal space.

- a) 1
- b) 3
- c) 5
- d) 7

61. In the application of fiberglass materials, the webril application is started at the _____ aspect of the tibia/fibula.

- a. proximal
- b. medial
- c. distal
- d. lateral

62. Which of the following is/are accurate in the application of fiberglass cast materials?

- a) Initial measurements should be taken on the uninjured side
- b) If cast padding is wrinkled, it must be removed
- c) Webril should be overlapped $\frac{1}{2}$ - $\frac{1}{4}$ the previous wrap
- d) All of the above

63. Which of the following molds are incorporated into the application of a short leg walking cast?

- a) Gastrocnemius mold
- b) Triangle mold
- c) Plantar arch mold
- d) Malleolus mold
- e) All of the above

64. In the application of a Minerva Jacket, the patient should be able to do which of the following?

- a) Sit comfortably
- b) Breathe freely
- c) Unrestricted digestion
- d) All of the above

65. Which of the following identifies the posterior landmark (inferiorly) in the application of a Minerva Jacket?

- a) PSIS
- b) coccyx
- c) occipital lobe
- d) L5/S1

66. Following Minerva Jacket application, what is/are recommended ROM check points?

- a) Have patient rotate shoulders
- b) Have patient sit in chair from standing position
- c) Have patient rotate hips
- d) Have patient inhale and exhale
- e) All of the above

67. Which of the following is NOT a coverage check point with Minerva Jacket application?

- a) Medial aspect of each scapula visible
- b) Cast material well molded to chin
- c) Distal aspect rests on iliac crest

d) Frontal region of forehead immobilized

68. A Body Jacket applied to the upper torso is immobilized from/when:

- a) Jugular notch
- b) Pubic symphysis
- c) Resting on iliac crest
- d) All of the above

69. The Body Jacket is applied _____ inches distal to the sternal notch.

- a) 1
- b) 3
- c) 5
- d) 7

70. With a Body Jacket application, there is approximately a _____ distance from the axilla to the cast edges.

- a) 0
- b) 6-8
- c) 2-4
- d) 4-6

71. What is the recommended position of the injured arm in relation to the torso in the application of a Velpeau Cast?

- a) fully abducted
- b) 15 degrees
- c) 45 degrees
- d) 90 degrees

72. Which of the following is characteristic in the application of a Velpeau Cast?

- a) Extended from the iliac crest to below axilla, on the unaffected side.
- b) Hands, wrist of unaffected arm have full ROM
- c) Includes injured arm 1" proximal to ulnar styloid
- d) All of the above

73. Following Velpeau application, the health care provider may check ROM in which of the following ways?

- a) Have patient sit in chair from standing position
- b) Have patient rotate hips
- c) Have patient rotate uninjured shoulder & both wrists
- d) Have patient inhale and exhale to determine airway compliance
- e) All of the above.

74. With a Shoulder Spica Cast, the injured arm is abducted at a _____ degree angle to the upper torso

- a) 90
- b) 45
- c) 15
- d) 0

75. A Shoulder Spica Cast includes securing a wooden bar (strut) attached to the medial aspect of the mid forearm and _____ iliac crest region.

- a) posterior
- b) anterior
- c) medial
- d) lateral

76. In the application of Hip Spica Cast, the patient should be _____ on the examination bed.

- a) Prone
- b) Sidelying
- c) Supine
- d) Any of the above

77. According to the readings, which of the following hip spica casts does NOT include a stabilization bar between the lower extremities?

- a) Unilateral
- b) One and one-half
- c) Bilateral
- d) All of the above require stabilization bar

78. According to the readings, which position(s) is/are recommended in the application of a short leg splint (SLS)?

- a) sitting
- b) sidelying
- c) supine
- d) Both a & c

79. A short leg splint is applied from the tips of the phalanges to _____ inches, distal to the popliteal space.

- a) 1
- b) 3
- c) 5

d) 7

80. A posterior splint is secured to the patient's injured leg with ankle immobilized at _____ degrees

a) 45

b) 90

c) 135

d) 180

81. The _____ nerve is located on the lateral side of the knee and if compressed may cause neurologic compromise.

a) Tibial

b) Malleolar

c) Peroneal

d) Axillary

82. In the application of a Long Arm Posterior Splint, the wrist is measured between _____ degrees of dorsal extension.

a) 0-15

b) 15-30

c) 30-45

d) 45-90

83. In the application of Long Arm Posterior Splint, the elbow is measured at ____ degrees of Flexion.

a) 45

b) 90

- c) 0
- d) 135

84. Which of the following is/are goniometric measurement considerations in the application of a Long Arm Posterior Splint?

- a) Stationary arm bisects the humerus
- b) Moving arm bisects the 2nd & 3rd metacarpals
- c) Protractor is placed at olecranon process
- d) All of the above.

85. When applying a gutter splint, the wrist is measured between _____ degrees of dorsal extension.

- a) 0-15
- b) 15-30
- c) 30-45
- d) 45-90

86. In the application of a gutter splint, the 4th and 5th metacarpals are measure between _____ degrees of Flexion.

- a) 0-30
- b) 30-60
- c) 70-90
- d) Fully Flexed

87. Which of the following is consistent with the application of a short arm volar splint?

- a) Splint is applied 1" distal to cubital space

- b) Wrist is measured 0-15 degrees of dorsal extension
 - c) Fingers & thumb have full ROM
 - d) Wrist absent of ulnar/radial deviation
 - e) All of the above
88. In the application of sugar tong splint, the elbow is immobilized in what position?
- a) 45 degrees
 - b) 90 degrees
 - c) 135 degree
 - d) Full extension
89. Which of the following is NOT consistent with the application of a sugar tong splint?
- a) applied base of MCP joints to distal palmar crease
 - b) capillary refill is applied following application
 - c) wrist is immobilized between 15-30 degrees
 - d) All of the above
90. According to the readings, a Long Leg Splint is generally applied to which surface area?
- a) anterior
 - b) posterior
 - c) medial
 - d) lateral
91. In the application of a long leg splint, how is the ankle usually position?

- a) Slight equinas
- b) 90 degrees
- c) Neutral
- d) b & c only

92. In the application of a long leg splint, the knee is flexed between _____ degrees.

- a) 0-15
- b) 15-30
- c) 30-45
- d) 45-90

93. Which of the following is/are instructions for patients follow long leg splint application?

- a) Instruct patient to use crutches when walking
- b) Instruct patient not to stick objects into cast
- c) Instruct patient to keep leg elevated
- d) Instruct patient to contact clinic/facility with any concerns
- e) All of the above

94. Which of the following is/are suggested when applying a compression dressing with a plaster splint?

- a) For leg application, use purified cotton (Robert Jones)
- b) Splint secured with elastic bandages
- c) For hand application, use kerlix fluffs
- d) All of the above

95. Which of the following standards may be incorporated when bivalving a cast?

- a) cast is cut medial/lateral or anterior/posterior
- b) cast may be opened with a “duck bill”
- c) Patient may be sitting or supine
- d) All of the above

96. Which of the following is an EXCEPTION when cutting a cast to “bivalve”?

- a) Cut medial & lateral
- b) Do not drag cast saw along cutting area
- c) Long arm cast cut anterior/posterior
- d) Cut in a straight line and away from patient

97. Which of the following equipment may be required when settling up an orthopedic bed with a trapeze?

- a) Cross clamps
- b) Orthopedic bed
- c) Trapeze with hand grip
- d) Long plain bars
- e) All of the above

98. Which of the following individuals is responsible for illustrating/drawing the transverse line required when “wedging” a cast?

- a) Orthopedic Tech
- b) Physician
- c) Registered Nurse
- d) Any of the above

99. The Total Contact Cast is used “exclusively” for which patient population listed below?

- a) diabetics
- b) degenerative joint disease
- c) malingering patients
- d) hemophiliacs

100. Which of the following should be incorporated following total contact cast application?

- a) Cast shoe
- b) podiatric massage
- c) crutch ambulation instruction
- d) a & c only

101. Which of the following is NOT a performance standard in the application of an upper extremity coaptation splint?

- a) Immobilized 1” superior to AC joint
- b) Splint allows full shoulder ROM
- c) Elbow positioned at 90° degree angle
- d) None of the above

102. Which of the following is/are consideration(s) when applying a coaptation splint/sling?

- a) Elderly population
- b) Fracture severity
- c) Patients Comfort
- d) Physician preference

- e) Any of the above
103. A Patella Tendon Bearing Cast includes 2-3 inches _____ to femoral condyles.
- a) distal
 - b) inferior
 - c) proximal
 - d) superior
104. The Patella Tendon Bearing Cast will:
- a) Eliminate rotation of tibia
 - b) Allow for full knee extension
 - c) Immobilize ankle at a 90° degree angle
 - d) All of the above
105. A Quadrilateral Thigh Bearing Cast is flared _____ inches proximal to the greater trochanter.
- a) 3
 - b) 5
 - c) 7
 - d) 9
106. A Quadrilateral Thigh Bearing Cast will incorporate hinges to which anatomic area(s)?
- a) Medial
 - b) Posterior
 - c) Lateral

d) a & c

107. When applying a short arm cast with finger outrigger, the aluminum splint is secured to which area of the cast?

- a) palmar
- b) volar
- c) superior
- d) inferior

108. A short arm radial gutter cast will incorporate which of the following anatomic areas of the hand?

- a) volar
- b) inferior
- c) dorsal
- d) superior

109. Which of the following is/are included in the performance steps necessary in applying a short arm radial gutter cast?

- a) No radial/ulnar deviation
- b) 1st & 2nd phalanges measured between 70-90 degrees flexion
- c) 0-15 degrees dorsal extension
- d) All of the above

110. In the application of a Short Arm Cobra Cast, the phalanges are measured between _____ degrees of flexion.

- a) 0-30
- b) 30-60

- c) 70-90
 - d) Fully Clinched
111. Which of the following is NOT accurate in the application of a Short Arm Thumb Spica Cast?
- a) Wrist immobilized 0-15 flexion
 - b) Free ROM at elbow
 - c) Entire distal phalanx of thumb uncovered
 - d) Cast ends 1" distal to elbow bend
112. Which of the following is NOT correct in the application of a Long Arm Thumb Spica Cast?
- a) Elbow is immobilized at 90°
 - b) Wrist is immobilized between 0-15° extension
 - c) Ulnar/radial deviation eliminated
 - d) Cast eliminates thumb & wrist rotation
113. In applying a long arm thumb spica cast, the cast extends _____ inches distal to the axilla.
- a) 2
 - b) 4
 - c) 8
 - d) 12
114. The Double Sugar Tong Splint is applied:
- a) From the base of MCP joints
 - b) posteriorly around the elbow to distal palmar crease

- c) From the base of deltoid to 2" distal to axilla
- d) With elbow flexed at 90 degrees
- e) All of the above

115. How many digits are secured in the application of finger traction?

- a) 2
- b) 3
- c) 4
- d) 5
- e) All of the above

Matching: Please place the following general performance standards into order of application:

- | | |
|------------|--|
| 116. _____ | a. Provide written verbal instruction on cast care |
| 117. _____ | b. Explain procedure to patient care |
| 118. _____ | c. Check capillary refill |
| 119. _____ | d. Receive orders from physician |
| 120. _____ | e. Gather equipment & Supplies |
| 121. _____ | f. Laminate fiberglass materials |
| 122. _____ | g. Administer ambulatory aids as necessary |
| 123. _____ | h. Inspect injured area |
| 124. _____ | i. Apply fiberglass materials |
| 125. _____ | j. Mold fiberglass materials |

Answer Key

- 116. d
- 117. b

- 118. h
- 119. e
- 120. i
- 121. f
- 122. j
- 123. c
- 124. g
- 125. a