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Physical Agents

x - x

x - x

(1)

SECTION
"A"

- ① B → hygiene
- ② A → proper circulation
- ③ C → convection
- ④ D → 25 times
- ⑤ C → Buoyancy
- ⑥ B → Two repetitions of 10 min off
and 10 mins on
- ⑦ C → 750nm - 400,000nm
- ⑧ A → IR rays
- ⑨ A → luminous generator
- ⑩ D → None of the above
- ⑪ D → 50 - 75 cm
- ⑫ C → 0.87 - 0.97

(2)

(13) D \rightarrow 10-15 minutes

(14) E \rightarrow None of them

(15) C \rightarrow Pascal's law

(16) C \rightarrow mild heating

(17) D \rightarrow pain gate mechanism

(18) C \rightarrow whirlpool

(19) D \rightarrow Both A & B

(20) B \rightarrow coplanar

(21) A \rightarrow Increase fluid movement

(22) A \rightarrow visible light

(23) B \rightarrow 5 cm

(24) C \rightarrow UV-A

(3)

(25) D → Infrared

(26) C → 0.8 mm

(27) A → 4 weeks

(28) C → osteoporosis

(29) A → Traction

(30) C → ultrasound

(31) C → UV-B

(32) B → cold receptors are several times more numerous than warm

(33) B → Anterior horn cells

(34) A → 24-48 hours

(35) A → 24-48 inches

(36) A → Ice

(1)

SECTION B

Q1:

(A) musculoskeletal effects

Buoyancy:

"The property of water by which it generate upward force and is related to the volume of water being displaced — It is the force that is in the opposite direction to the gravity".

How Buoyancy helps in Musculoskeletal conditions?

* Buoyancy help exercise when weight bearing is contraindication (decrease stress and compression on weight bearing joints, muscles and connective tissues)

(2)

* The buoyancy effect experienced within the water reduces the weight bones, muscles and joints have to bear.

* This coupled with the heating effect to decrease swelling, increase blood flow and decrease pain.

* It provides an ideal medium to assist a full return in musculoskeletal disorders.

* The water exercises are done to weight bearing exercises joints and ligaments. Patients have the exercises of buoyancy feel less than 70% forces on their joints.

(3)

(b)

* Obsessed patients feel less stress on their joints if they land their joints on hydro medium instead of hard surface e.g, land for which they will need support or some kind of crutches.

(b) Cardiovascular effects:

* Hydrostatic effects pressure on the immersed body assist in promoting circulation of blood by alleviating peripheral edema due to venous or lymphatic insufficiency.

(4)

* Hence facilitate cardiovascular function because more blood will be transferred to heart, more blood accumulation means greater stroke of blood will be provided to body and hence efficient cardiovascular functionality may occur.

(c) Respiratory effects:

If a body is immersed in water deep down till neck hydrostatic pressure will be inserted on each part of the body equally.

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Hydrostatic pressure will cause blood to flow towards heart (venous blood) which will result accumulation of blood in chest cavity plus the pressure exerted on chest will result in reluctance of lungs capacity of expansion which will force lungs to work harder ultimately improving the function of lungs. The immersion of body also in water also result in an improvement of asthma against pollen's because water

(6)

don't have any pollen-grains and will help an improvement in patients having asthma, but remember we just cannot simply submerge patients having asthma for a long time in water because it can also cause complications in asthmatic patients.