

AmbujaNeotia



**THE NEOTIA
UNIVERSITY**

ज्ञानम् आत्म प्रदीपाय

UGC Enlisted & Recognised

Department of Physiotherapy

School of Health Science

Bachelor of Physiotherapy

(BPT)

Electrotherapy II Practical Manual

Course Code: BPT 404

Index

Sl.no.	Topic	Page no.
01.	Electrotherapy Application Procedures	05
02.	Hydrocollator Packs (Hot Packs)	14
03.	Paraffin Wax Bath	19
04.	Shortwave Diathermy	31
05.	Cryotherapy	43
06.	Infra-Red Radiation	51
07.	Ultraviolet Radiation	58
08.	Ultrasound Therapy	66
09.	Phonophoresis	73
10.		
11.		
12.		
13.		
14.		

Sl.no.	Topic	Page no.

Certificate

This is to certify that Mr./Ms. with UID
number of Bachelor of
Physiotherapy Semester 3rd has satisfactorily completed the practical prescribed by
the Neotia University for the year

.....
Signature of Student

.....
Signature of Faculty

Date of Submission:

Electrotherapy Application Procedures

Part 1: Patient's Preparation Procedures

- Receiving the patient
 1. Introduce yourself to patient: Good morning sir / madam. I am your therapist (*Your Name*) who is going to treat you.
 2. Give assurance/confidence: Don't worry; I will do my best for you.
- Case sheet reading
 1. Go through the medical reports of the patient and look for Assessment and diagnosis done by the physician, Laboratory investigation reports.
 2. Find out diagnosis/general contraindications/previous physiotherapy treatment etc.
 3. Verify the absence of contraindications and ask about previous treatment of current condition
 4. Say, "I will go through your medical sheet"
- Checking contraindications and area to be treated
 1. By building a rapport with the patient and by case sheet reading, check the general contraindications and specific contraindications (related to the modality to be used).
 2. Check for:
 - a) Hyper pyrexia
 - b) Epilepsy
 - c) Severe renal and cardiac problems
 - d) Severe hypo/hypertension
 - e) Anaemia
 - f) Cardiac pacemakers

- g) Infections
 - h) Pregnant women
 - i) Menstruation
 - j) Metal implants
 - k) Mentally retarded/upset patients
 - l) Malignancy
 - m) Anterior aspect of neck/carotid sinus/eyes
3. Check for local contraindications:
- a) Open wounds
 - b) Scars
 - c) Local skin infections
 - d) Pregnant Uterus
 - e) Dermatitis, Abrasions, and Eczema
 - f) Localized haemorrhagic spots
 - g) Skin sensitivity
4. Check the area to be treated for:
- a) Jewellery
 - b) Check for light touch perception (piece of cotton and/or brush)
 - c) Check for sensation (pin prick sensation)
 - d) Check circulatory conditions (Pulses, capillary refill, pallor)
 - e) For functional limitation and disability: (e.g. ROM, Pain, muscle strength)

Part 2: Equipment Preparation Procedures

- Tray preparations

1. Skin sensation testing tray:

- a) Two test tubes – one hot water and one cold water
- b) Pillows
- c) Towel

- d) Sand bag
 - e) U-pin (sharp & blunt)
- 2. Preparation of apparatus:
 - a) Pillows
 - b) Towel
 - c) Bed sheet
 - d) Machine
 - e) Selection of electrodes
 - f) Sand bags
 - g) Sanitizer
 - h) Sockets and cables
- Preparation before Treatment
 - 1. Select the proper modality (e.g. SWD, MWD, Ultrasound, IRR, UVR, LASER, Cryo-packs etc.) and accessories (electrodes, cables, towels and bedsheets), conducting material (aqueous gel) where needed.
 - 2. The apparatus and accessories needed should be assembled and suitably positioned.
 - 3. Obtain and position pillows, bed sheet and towel for draping.
 - 4. Skin resistance lowering & sensation testing
- Apparatus preparation
 - 1. Check the apparatus, stimulators & accessories like electrodes, leads, cables, plugs, power sockets, switches, controls, dials and others.
 - 2. Visually check the above parameters and indicator lights for cracks and breaks.
 - 3. Finally ensure the amplitude controls are at zero.
 - 4. Apparatus checking
 - a) Demonstration of the treatment
 - b) Check the functioning of machine in front of the patient

c) Explanation of treatment

Part 3: Procedures for Application

- Positioning the patients:
 1. Comfortable
 2. Relaxed
 3. Appropriate
 4. The position of the part to be treated should be completely relaxed.
 5. Patient should be made comfortable by using maximum number of pillows and sand bags for the support.
 6. Position of the patient should be such that all the joints of the body are completely relaxed.
 7. If possible, use a position in which patient can see the treatment.

- Skin sensation testing:
 1. Pain and Light Touch Sensation
 - a) Initial evaluation of the sensory system is completed with the patient lying supine, eyes closed. Instruct the patient to say "sharp" or "dull" when they feel the respective object.
 - b) Show the patient each object and allow them to touch the needle and brush prior to beginning to alleviate any fear of being hurt during the examination
 - c) With the patient's eyes closed, alternate touching the patient with the needle and the brush at intervals of roughly 5 seconds.
 - d) Make certain to instruct the patient to tell the therapist if they notice a difference in the strength of sensation on each side of their body.
 - e) Alternating between pinprick and light touch. Touch one body part followed by the corresponding body part on the other side

(e.g., the right shoulder then the left shoulder) with the same instrument. This allows the patient to compare the sensations and note asymmetry.

- Skin sensation test (Temperature):

1. Two test tubes with stoppers needs to be taken.
2. Fill one test tube with cold water (between 5°C to 10°C)
3. Fill other test tube with warm water (between 40°C to 45°C)
4. The test tubes are randomly placed in contact with the skin area to be tested.
5. All skin surfaces should be tested.
6. The patient is asked to respond hot and cold after each stimulus application.

- Checking equipment and selecting treatment parameters

1. Select the type of application of the treatment wherever possible, then check the apparatus
2. Adjust the treatment parameters (frequency, mode, waveform etc.) to desired setting.
3. Set a timer for the appropriate treatment time and give the patient a signalling device (if available). Make sure the patient understands how to use the signalling.
4. During this process of application therapist will demonstrate the treatment to the patient, and give an explanation of the treatment to the patient. Explain about the type of sensation, which will be experienced by the patient, and monitor the patient's response.

- Application of treatment:

1. Select appropriate electrodes (disc/pad) or applicator (for USG/ LASER).

2. Position the patient appropriately and apply the electrode.
 3. Drape the patient properly to ensure the patient's comfort.
 4. Place electrodes properly on and /or around the painful area(s).
- Placing the electrodes: (Checklist)
 1. Use straps or towels for holding the electrodes in place.
 2. Apply aqueous gel evenly on applicator where appropriate.
 3. Maintain good contact between the skin and the electrodes
 4. Wires or leads should not cross each other and/or over the patient during the treatment.
 5. Confirm connections.

Part 4: Instructions and warnings

- Before starting treatment, therapist must give following instructions and warnings to the patient
 1. Instructions:
 - a) Don't move during the treatment.
 - b) Don't sleep while the treatment is going on.
 - c) Don't touch the cables, apparatus, therapist, and any other metal nearby them.
 2. Warnings:
 - a) Remind the patient to inform you when he/she feels something.
Do not tell the patient what it will feel.
 - b) As there are chances of getting a blister due to excessive current or overheating, so ask the patient to inform you if the current is not comfortable or heating is more.
 - c) If there is any burning sensation ask the patient to immediately inform you, as it might lead to burn.
 - d) Ask the patient to inform you if the position is not comfortable.
 - e) The warning given should be noted on the patient's record.

Part 5: Treatment, follow-up and termination

- Treatment:
 1. Turn on the equipment and increase the amplitude slowly till it is comfortable for the patient.
 2. Duration of the treatment is decided on the basis of the condition.
 3. Recheck the patient's response after the first 5 minutes by asking the patient how it feels, if the sensation has diminished, adjust the amplitude appropriately.
 4. Observe the patient throughout to ensure that treatment is progressing satisfactorily and without adverse effects.
- Termination of treatment:
 1. When the treatment time is over, turn the intensity to zero and move the electrodes away from the patient
 2. Remove the electrodes and clean the patient.
 3. Assess the treatment efficacy and adverse effects
 - a) Ask the patient how the treated area feels
 - b) Visually inspect the treated area for any adverse reaction
 - c) Perform functional test as indicated
 4. Manage if anything & give instruction regarding the next session.
 5. Windup procedure

Part 6: Documentation of treatment

- An accurate record of all parameters of treatment:
 1. Region treated, (knee, shoulder, elbow, back, neck)
 2. Conditions stage (acute, subacute, chronic)
 3. Treatment modality
 4. Parameter of treatment technique, dosage, frequency and duration

5. Assessment parameter (pain, ROM, muscle strength etc.,) that reflect the resultant effect.
6. Adverse effect (erythema, burning, blisters) if any.

Therapeutic Heat Application

Hydrocollator Packs (Hot Packs)

Part 1: *Materials Needed*

- Hydrocollator packs (various sizes)
- Towels
- Pillows and cases

Part 2: *Procedures*

- Position the patient with sufficient pillows as per the condition and drape the patient.
- Check the area to be treated for contraindications.
- Remove a standard size hot pack and place it in a commercial cover.
- Place a folded towel over the treatment area, and place the hot pack on top of the folded towel.
- Drape the patient.
- Ask the patient to describe what he or she feels on the back at the intervals noted and record the descriptions.
- Remove the hot packs from the patients after 15 minutes, and reassess the treatment area.
- Leave a layer of towelling on the treatment area while you return the hot pack to the hydrocollator unit.

(This will keep some of the heat and moisture from evaporating from the patient's skin.)

Documentation (1)

1. Write the indication
2. Note the contraindications (if any)
3. What temperature was the hydrocollator unit kept at?
4. The water level in the hydrocollator unit:
5. How long the treatment with the modality lasted?
6. Record the descriptions of the patient in the following intervals:
 - a. Initially:
 - b. After 5 minutes:
 - c. After 8 minutes:
 - d. After 10 minutes:
7. What was the site of placing the packs?
8. What was the position of the patient?

Documentation (2)

1. Write the indication
2. Note the contraindications (if any)
3. What temperature was the hydrocollator unit kept at?
4. The water level in the hydrocollator unit:
5. How long the treatment with the modality lasted?
6. Record the descriptions of the patient in the following intervals:
 - a. Initially:
 - b. After 5 minutes:
 - c. After 8 minutes:
 - d. After 10 minutes:
7. What was the site of placing the packs?
8. What was the position of the patient?

Documentation (3)

1. Write the indication
2. Note the contraindications (if any)
3. What temperature was the hydrocollator unit kept at?
4. The water level in the hydrocollator unit:
5. How long the treatment with the modality lasted?
6. Record the descriptions of the patient in the following intervals:
 - a. Initially:
 - b. After 5 minutes:
 - c. After 8 minutes:
 - d. After 10 minutes:
7. What was the site of placing the packs?
8. What was the position of the patient?

Documentation (4)

1. Write the indication
2. Note the contraindications (if any)
3. What temperature was the hydrocollator unit kept at?
4. The water level in the hydrocollator unit:
5. How long the treatment with the modality lasted?
6. Record the descriptions of the patient in the following intervals:
 - a. Initially:
 - b. After 5 minutes:
 - c. After 8 minutes:
 - d. After 10 minutes:
7. What was the site of placing the packs?
8. What was the position of the patient?

Paraffin Wax Bath

Part 1: Materials Needed

- 1) Paraffin unit
- 2) Lint Cloth
- 3) Brush/cup
- 4) Towels
- 5) Scraper
- 6) Plastic wrap

Part 2: Procedures

- Turn on the paraffin unit and set the temperature.
- Position the patient comfortably and expose the area to be treated.
- Wash and dry the area to be treated properly.

A. Dip Method:

1. Ask the patient to dip the part to be treated into the paraffin unit, remove it, and let the paraffin harden. Then instruct them to re-dip to achieve 8 to 10 layers of paraffin.
2. Wrap the dipped part in plastic wrap and then in a towel.
3. Position the patient for a 15-minute treatment time, making sure that the dipped part is supported and elevated so that the wax doesn't crack.
4. The paraffin that you remove may either be manipulated in the patient's body part until it cools or removed entirely. The treatment area is then reassessed.
5. The paraffin should be disposed of after use.

B. Continuous Immersion Method (For hand or wrist)

1. Ask the patient to immerse his or her hand and wrist into the paraffin unit, remove it, and let the paraffin harden.
2. Then ask him or her to re-immerses the hand and wrist into the unit and leave it in the unit. He or she should be careful to not move their fingers or break the “glove” of paraffin that was initially formed.
3. Position the patient so that he or she will be comfortable and supported during the 15-minute immersion treatment.

C. Wrapping method:

1. Immerse a lint cloth into the paraffin wax unit and drain excess wax into the unit.
2. Wrap the cloth over the area to be treated and mould it over the part.
3. Cover with a plastic wrap and leave till it cools.
4. Repeat the above process 6-8 times or till the parts feels warm.

Documentation (1)

1. Write the indication
2. Note the contraindications (if any)
3. What temperature was the paraffin wax unit kept at?
4. The method was used:
5. What was the treatment site?
6. How long the treatment with the modality lasted?
7. Record the descriptions of the patient in the following intervals:
 - a. Initially:
 - b. After 3 minutes:
 - c. After 6 minutes:
 - d. After 9 minutes:
 - e. After termination:

8. Reassess the patient and document your observations:

a. Appearance of the skin

b. Blood Pressure

c. Temperature (skin)

d. Patient sensation

e. Erythema

Documentation (2)

1. Write the indication
2. Note the contraindications (if any)
3. What temperature was the paraffin wax unit kept at?
4. The method was used:
5. What was the treatment site?
6. How long the treatment with the modality lasted?
7. Record the descriptions of the patient in the following intervals:
 - a. Initially:
 - b. After 3 minutes:
 - c. After 6 minutes:
 - d. After 9 minutes:
 - e. After termination:

8. Reassess the patient and document your observations:

a. Appearance of the skin

b. Blood Pressure

c. Temperature (skin)

d. Patient sensation

e. Erythema

Documentation (3)

1. Write the indication
2. Note the contraindications (if any)
3. What temperature was the paraffin wax unit kept at?
4. The method was used:
5. What was the treatment site?
6. How long the treatment with the modality lasted?
7. Record the descriptions of the patient in the following intervals:
 - a. Initially:
 - b. After 3 minutes:
 - c. After 6 minutes:
 - d. After 9 minutes:
 - e. After termination:

8. Reassess the patient and document your observations:

a. Appearance of the skin

b. Blood Pressure

c. Temperature (skin)

d. Patient sensation

e. Erythema

Documentation (4)

1. Write the indication
2. Note the contraindications (if any)
3. What temperature was the paraffin wax unit kept at?
4. The method was used:
5. What was the treatment site?
6. How long the treatment with the modality lasted?
7. Record the descriptions of the patient in the following intervals:
 - a. Initially:
 - b. After 3 minutes:
 - c. After 6 minutes:
 - d. After 9 minutes:
 - e. After termination:

8. Reassess the patient and document your observations:

a. Appearance of the skin

b. Blood Pressure

c. Temperature (skin)

d. Patient sensation

e. Erythema

Documentation (5)

1. Write the indication
2. Note the contraindications (if any)
3. What temperature was the paraffin wax unit kept at?
4. The method was used:
5. What was the treatment site?
6. How long the treatment with the modality lasted?
7. Record the descriptions of the patient in the following intervals:
 - a. Initially:
 - b. After 3 minutes:
 - c. After 6 minutes:
 - d. After 9 minutes:
 - e. After termination:

8. Reassess the patient and document your observations:

a. Appearance of the skin

b. Blood Pressure

c. Temperature (skin)

d. Patient sensation

e. Erythema

Shortwave Diathermy

Part 1: Materials Needed

- Hydrocollator packs (various sizes)
- Towels
- Pillows and cases

Part 2: Procedures

- Position the patient so that he or she will be supported and comfortable for the 15-minute treatment.
- Use sufficient pillows and bedsheets as per the condition and expose the area to be treated.
- Check the area to be treated for contraindications.
- Drape the part to be treated with sufficient layers of towel (at least 4 layers).
- Position the treatment applicator(s), which may consist of a drum, plates, or cables. Turn the unit on.
- Termination of treatment
 - a) Turn the unit off. Remove the treatment applicator(s).
 - b) Unplug the unit from the wall outlet.
 - c) After 2-3 minutes ask the patient to turn to side-lying and slowly attain standing position.

Documentation (1)

1. Write the indication
2. Note the contraindications (if any)
3. What parameters did you use?
 - a) Frequency:
 - b) Time duration:
4. What was the position of the patient?
5. Type of electrode used:
6. What was the treatment site?
7. How long the treatment with the modality lasted?
8. Record the descriptions and your observations:
 - a) Initially
 - b) At 5 minutes
 - c) At 10 minutes
 - d) After termination:

9. Reassess the patient and document your observations:

- a) Appearance of the skin
- b) Blood Pressure
- c) Temperature (skin)
- d) Patient sensation
- e) Erythema

Documentation (2)

1. Write the indication
2. Note the contraindications (if any)
3. What parameters did you use?
 - a. Frequency:
 - b. Time duration:
4. What was the position of the patient?
5. Type of electrode used:
6. What was the treatment site?
7. How long the treatment with the modality lasted?
8. Record the descriptions and your observations:
 - a. Initially
 - b. At 5 minutes
 - c. At 10 minutes
 - d. After termination:

9. Reassess the patient and document your observations:

a. Appearance of the skin

b. Blood Pressure

c. Temperature (skin)

d. Patient sensation

e. Erythema

Documentation (3)

1. Write the indication
2. Note the contraindications (if any)
3. What parameters did you use?
 - a. Frequency:
 - b. Time duration:
4. What was the position of the patient?
5. Type of electrode used:
6. What was the treatment site?
7. How long the treatment with the modality lasted?
8. Record the descriptions and your observations:
 - a. Initially
 - b. At 5 minutes
 - c. At 10 minutes
 - d. After termination:

9. Reassess the patient and document your observations:

- a. Appearance of the skin
- b. Blood Pressure
- c. Temperature (skin)
- d. Patient sensation
- e. Erythema

Documentation (4)

1. Write the indication
2. Note the contraindications (if any)
3. What parameters did you use?
 - a. Frequency:
 - b. Time duration:
4. What was the position of the patient?
5. Type of electrode used:
6. What was the treatment site?
7. How long the treatment with the modality lasted?
8. Record the descriptions and your observations:
 - a. Initially
 - b. At 5 minutes
 - c. At 10 minutes
 - d. After termination:

9. Reassess the patient and document your observations:

- a. Appearance of the skin
- b. Blood Pressure
- c. Temperature (skin)
- d. Patient sensation
- e. Erythema

Documentation (5)

1. Write the indication
2. Note the contraindications (if any)
3. What parameters did you use?
 - a. Frequency:
 - b. Time duration:
4. What was the position of the patient?
5. Type of electrode used:
6. What was the treatment site?
7. How long the treatment with the modality lasted?
8. Record the descriptions and your observations:
 - a. Initially
 - b. At 5 minutes
 - c. At 10 minutes
 - d. After termination:

9. Reassess the patient and document your observations:

- a. Appearance of the skin
- b. Blood Pressure
- c. Temperature (skin)
- d. Patient sensation
- e. Erythema

Therapeutic Cold Application

Cryotherapy

Part 1: Materials Needed

- Ice packs
- Ice cubes
- Ice baths
- Towels
- Basin
- Mackintosh
- Pillows and cases

Part 2: Procedures

Ice Application

10. Ice massage directly to the area to be treated.
11. It can be either ice pop, ice cup or ice bag.
12. Comfortably position patient to support the part during treatment.

Cold Water Immersion

- Fill a small basin with about 3 inches of cold water and pour ice cubes or shaved ice into the water so that the entire surface of the water in the basin is covered with ice. This will serve as the ice bath.
- Comfortably position patient to support the part during treatment.

Commercial Ice Packs

13. Ice packs are available in a variety of sizes and consistencies.
14. They have different application techniques:
 - a) Directly on skin
 - b) Over dry pillow case or cloth

c) Over damp pillow case or cloth

Part 3: Application

1. Review the precautions and contraindications before applying cryotherapy to ensure that its use is safe for this patient at this time.
2. Explain the modality to the patient so that he or she will know what to expect from the application of the cryotherapy.
3. Inspect the skin overlying the treatment area where cryotherapy will be applied.
4. Position the patient for the application of cryotherapy so that he or she is supported in a neutral position.
 - a. If you are using ice massage, ensure that you have a towel under the area to catch melted ice.
 - b. If you are applying an ice pack to the cervical spine, ensure that the patient is either supine or prone to unload the cervical musculature.
 - c. If you are applying cryotherapy using an ice bath, ensure that the patient can sit in a comfortable position during the application.
5. Remove the patient's clothing from the treatment area.
6. Apply the selected form of cryotherapy to the patient.
7. Drape the patient so that no additional skin is exposed.
8. Remind the patient what to expect from the cold pack or ice bath application. It is common to first feel cold, then aching or burning, followed by numbness.
9. Re-check the patient after 3 to 5 minutes to ensure that he or she is still comfortable.

Documentation (1)

1. Write the indication
2. Note the contraindications (if any)
3. What was the treatment site? (Area treated and what aspect)
4. Treatment positioning:
5. The method was used:
6. How long the treatment with the modality lasted?
7. Record the descriptions of the patient in the following intervals:
 - a. After 3 minutes:
 - b. After 6 minutes:
 - c. After 9 minutes:
8. Reassess the patient and document your observations:
 - a. Appearance of the skin
 - b. Patient sensation (Cold/ Burning/ Aching/ Numbness)

Documentation (2)

1. Write the indication
2. Note the contraindications (if any)
3. What was the treatment site? (Area treated and what aspect)
4. Treatment positioning:
5. The method was used:
6. How long the treatment with the modality lasted?
7. Record the descriptions of the patient in the following intervals:
 - a. After 3 minutes:
 - b. After 6 minutes:
 - c. After 9 minutes:
8. Reassess the patient and document your observations:
 - a. Appearance of the skin
 - b. Patient sensation (Cold/ Burning/ Aching/ Numbness)

Documentation (3)

1. Write the indication
2. Note the contraindications (if any)
3. What was the treatment site? (Area treated and what aspect)
4. Treatment positioning:
5. The method was used:
6. How long the treatment with the modality lasted?
7. Record the descriptions of the patient in the following intervals:
 - a. After 3 minutes:
 - b. After 6 minutes:
 - c. After 9 minutes:
8. Reassess the patient and document your observations:
 - a. Appearance of the skin
 - b. Patient sensation (Cold/ Burning/ Aching/ Numbness)

Documentation (4)

1. Write the indication
2. Note the contraindications (if any)
3. What was the treatment site? (Area treated and what aspect)
4. Treatment positioning:
5. The method was used:
6. How long the treatment with the modality lasted?
7. Record the descriptions of the patient in the following intervals:
 - a. After 3 minutes:
 - b. After 6 minutes:
 - c. After 9 minutes:
8. Reassess the patient and document your observations:
 - a. Appearance of the skin
 - b. Patient sensation (Cold/ Burning/ Aching/ Numbness)

Documentation (5)

1. Write the indication
2. Note the contraindications (if any)
3. What was the treatment site? (Area treated and what aspect)
4. Treatment positioning:
5. The method was used:
6. How long the treatment with the modality lasted?
7. Record the descriptions of the patient in the following intervals:
 - a. After 3 minutes:
 - b. After 6 minutes:
 - c. After 9 minutes:
8. Reassess the patient and document your observations:
 - a. Appearance of the skin
 - b. Patient sensation (Cold/ Burning/ Aching/ Numbness)

Radiation Therapy Application

Infra-Red Radiation

Part 1: Materials Needed

- Infra-red radiation lamp/ generator
- Towels and bedsheets
- Protective goggles
- Pillows for comfort
- Test tubes for skin temperature test
- A glass of water

Part 2: Procedures

1. The choice of apparatus: depending upon the condition and the area to be treated, select from any one of the following
 - a. Luminous lamp
 - b. Non-luminous generator
 - c. Tunnel bath
2. Preparation of patient:
 - a. Position the patient in a suitable, well supported position with the area to be treated exposed.
 - b. Position the patient with sufficient pillows as needed and drape the patient.
 - c. The patient is warned that he should experience comfortable warmth
 - d. Patient should report immediately if the heating becomes excessive.
 - e. Patient should not touch any part of the lamp or to move nearer to it
3. Arrangement of lamp and patient:

- a. Position the lamp so that its opposite to the area to be treated so that the rays strike the skin at 90°.
- b. Position the lamp at a distance of 50 – 75 cm.
- c. Ensure that the part to be treated is only exposed and cover the patient's face and give them goggles to protect the eyes.

Part 3: Application

1. Review the precautions and contraindications before starting the treatment.
2. Explain the nature and effects of the treatment to the patient.
3. Examination: examine the skin to be treated and test the thermal sensation.
4. Preparation of apparatus:
 - a. Selection of lamp is to be done.
 - b. Checking plugs
 - c. Checking sockets
 - d. Regulation of power
5. Non-luminous generators take some time to get heated, so they should be switched on 5-7min before treatment.
6. Luminous generator needs no warm up time and can be switched on once the patient is ready for the treatment.
7. DO NOT LEAVE THE PATIENT ALONE DURING TREATMENT.
8. Terminate the treatment by turning off the lamp, ask the patient to wait for 2-3minutes before getting up.
9. Give them water to sip if needed and note how they are feeling (giddiness, nausea or headache)

Documentation (1)

1. Write the indication
2. Note the contraindications (if any)
3. The kind of apparatus is used: (Luminous/ Non-luminous)
4. What was the treatment site? (Area treated and what aspect)
5. Treatment positioning:
6. How long the treatment with the modality lasted?
7. Record the descriptions of the patient in the following intervals:
 - a. After 3 minutes:
 - b. After 6 minutes:
 - c. After 9 minutes:
8. Erythema response:
9. Note any adverse reactions during the treatment:
10. Reassess the patient and document your observations:
 - a. Appearance of the skin
 - b. Patient sensation (warmth/ burning/ sweating/ hot/ giddiness/ nausea)

Documentation (2)

1. Write the indication
2. Note the contraindications (if any)
3. The kind of apparatus is used: (Luminous/ Non-luminous)
4. What was the treatment site? (Area treated and what aspect)
5. Treatment positioning:
6. How long the treatment with the modality lasted?
7. Record the descriptions of the patient in the following intervals:
 - a. After 3 minutes:
 - b. After 6 minutes:
 - c. After 9 minutes:
8. Erythema response:
9. Note any adverse reactions during the treatment:
10. Reassess the patient and document your observations:
 - a. Appearance of the skin
 - b. Patient sensation (warmth/ burning/ sweating/ hot/ giddiness/ nausea)

Documentation (3)

1. Write the indication
2. Note the contraindications (if any)
3. The kind of apparatus is used: (Luminous/ Non-luminous)
4. What was the treatment site? (Area treated and what aspect)
5. Treatment positioning:
6. How long the treatment with the modality lasted?
7. Record the descriptions of the patient in the following intervals:
 - a. After 3 minutes:
 - b. After 6 minutes:
 - c. After 9 minutes:
8. Erythematous response:
9. Note any adverse reactions during the treatment:
10. Reassess the patient and document your observations:
 - a. Appearance of the skin
 - b. Patient sensation (warmth/ burning/ sweating/ hot/ giddiness/ nausea)

Documentation (4)

1. Write the indication
2. Note the contraindications (if any)
3. The kind of apparatus is used: (Luminous/ Non-luminous)
4. What was the treatment site? (Area treated and what aspect)
5. Treatment positioning:
6. How long the treatment with the modality lasted?
7. Record the descriptions of the patient in the following intervals:
 - a. After 3 minutes:
 - b. After 6 minutes:
 - c. After 9 minutes:
8. Erythematous response:
9. Note any adverse reactions during the treatment:
10. Reassess the patient and document your observations:
 - a. Appearance of the skin
 - b. Patient sensation (warmth/ burning/ sweating/ hot/ giddiness/ nausea)

Documentation (5)

1. Write the indication
2. Note the contraindications (if any)
3. The kind of apparatus is used: (Luminous/ Non-luminous)
4. What was the treatment site? (Area treated and what aspect)
5. Treatment positioning:
6. How long the treatment with the modality lasted?
7. Record the descriptions of the patient in the following intervals:
 - a. After 3 minutes:
 - b. After 6 minutes:
 - c. After 9 minutes:
8. Erythematous response:
9. Note any adverse reactions during the treatment:
10. Reassess the patient and document your observations:
 - a. Appearance of the skin
 - b. Patient sensation (warmth/ burning/ sweating/ hot/ giddiness/ nausea)

Ultraviolet Radiation

Part 1: Materials Needed

- Ultraviolet lamp
- Towels and bedsheets
- Protective goggles
- Pillows for comfort
- Cardboard sheet or thick paper for dose test

Part 2: Procedures

1. The choice of UV apparatus: select from any one of the following
 - a. Air-cooled lamps
 - b. Water-cooled lamps: Kromayer lamp
 - c. Fluorescent Tubes
 - d. Theraktin Tunnel
2. Check for contraindications
3. Give general instructions to the patient:
 - a. Don't expose treated area to sunlight
 - b. Don't use soap or water on treated area
 - c. Don't wash the treated area
 - d. Don't apply cream or powder to treated area.
4. Determine the individual patient's sensitivity to UV radiation: Test dose calculation.
5. Once the individual's responsiveness to a particular UV lamp has been determined, the treatment dose can be selected to produce the desired erythema response.

6. A minimal erythematous dose (MED) is determined for each patient before initiating treatment with UV radiation.
7. Progressively higher doses of UV radiation are generally needed during a course of UV treatment due to skin changes from tanning and hyperplasia.
8. Give proper instructions to the patient:
 - a. Wear goggles
 - b. Observe and monitor the skin condition
 - c. Keep skin moisture following exposure to UVR
 - d. Pigmentation changes are to be expected and are a normal response.

Part 3: Application

1. Review the precautions and contraindications before starting the treatment.
2. Explain the nature and effects of the treatment to the patient.
3. Examination: examine the skin to be treated and test the thermal sensation.
4. Dosage calculation:
 - a. Sub-erythematous dose = $\frac{1}{2}$ E1 time
 - b. E2 dose = 2.5 X E1 time
 - c. E3 dose = 5 X E1 time
 - d. E4 dose = 10 X E1 time
5. Progression of dosage: An exposure to UVR should not be repeated until the erythema caused by a previous dose has faded.
 - a. To repeat an E1 – 25% of the preceding dose is added
 - b. To repeat an E2 – 50% of the preceding dose is added
 - c. To repeat an E3 – 75% of the preceding dose is added

Documentation (1)

1. Write the indication
2. Note the contraindications (if any)
3. The kind of lamp is used:
4. What was the treatment site? (Area treated and what aspect)
5. Which dose was given?
6. Degrees of Erythema:

Degree of Erythema	Latent period in hours	Appearance colour	Duration of erythema	Skin oedema	Skin discomfort	Desquamation of skin	Relation to E1 dose
E1							
E2							
E3							
E4							

Documentation (2)

1. Write the indication
2. Note the contraindications (if any)
3. The kind of lamp is used:
4. What was the treatment site? (Area treated and what aspect)
5. Which dose was given?
6. Degrees of Erythema:

Degree of Erythema	Latent period in hours	Appearance colour	Duration of erythema	Skin oedema	Skin discomfort	Desquamation of skin	Relation to E1 dose
E1							
E2							
E3							
E4							

Documentation (3)

1. Write the indication
2. Note the contraindications (if any)
3. The kind of lamp is used:
4. What was the treatment site? (Area treated and what aspect)
5. Which dose was given?
6. Degrees of Erythema:

Degree of Erythema	Latent period in hours	Appearance colour	Duration of erythema	Skin oedema	Skin discomfort	Desquamation of skin	Relation to E1 dose
E1							
E2							
E3							
E4							

Documentation (4)

1. Write the indication
2. Note the contraindications (if any)
3. The kind of lamp is used:
4. What was the treatment site? (Area treated and what aspect)
5. Which dose was given?
6. Degrees of Erythema:

Degree of Erythema	Latent period in hours	Appearance colour	Duration of erythema	Skin oedema	Skin discomfort	Desquamation of skin	Relation to E1 dose
E1							
E2							
E3							
E4							

Documentation (5)

1. Write the indication
2. Note the contraindications (if any)
3. The kind of lamp is used:
4. What was the treatment site? (Area treated and what aspect)
5. Which dose was given?
6. Degrees of Erythema:

Degree of Erythema	Latent period in hours	Appearance colour	Duration of erythema	Skin oedema	Skin discomfort	Desquamation of skin	Relation to E1 dose
E1							
E2							
E3							
E4							

Therapeutic Ultrasound

Ultrasound Therapy

Part 1: Materials Needed

- Variable frequency ultrasound unit (1 MHz, 3 MHz)
- Towels
- Transducers head
- Pillows
- Cup of water
- Cellophane tape or micropore
- Aqueous (acoustically-conductive) gel

Part 2: Procedures

1. Review the precautions and contraindications before applying ultrasound.
2. **The choice of US frequency:** select from either 1 MHz or 3 MHz depending on condition. (Superficial: 3 MHz; Deep: 1 MHz)
3. Inspect the skin overlying the treatment area where ultrasound will be applied. Assess for blanching, increased temperature, and the presence of scars.
4. **Testing the Transducer** for Acoustical Output:
 - a. The water test will show visually whether or not the transducer is producing and transmitting acoustical energy.
 - b. Make a ring of cellophane tape around the transducer so that you are creating a “well” that is capable of being filled with water.
 - c. Pour some tap water into the well so that the water depth is about 1/4 inch deep.
 - d. Set the following parameters: 1 MHz, 1.5 W/cm².

- e. If there is a disturbance in the water, then there is acoustical output from the transducer.

5. Preparation of the patient:

- a. Position the patient for the application of the ultrasound so that he or she is supported in a neutral position.
 - b. Remove the patient's clothing from the treatment area.
 - c. Skin should be washed and hairs should be removed.
- 6. Apply a small amount of acoustically conductive gel to the surface of the ultrasound transducer, enough to cover the surface of the transducer.
 - 7. Apply the transducer to the patient. Set the intensity and move the transducer to treat the patient with ultrasound.
 - 8. Remind the patient what to expect during ultrasound treatment and to let you know if he or she feels anything uncomfortable.
 - 9. Ensure that the transducer head is moved constantly and there is good contact between the transducer and the patient's skin.
 - 10. When the treatment time concludes, remove the transducer from the patient, wipe off the gel, and carefully place it back in its cradle in the ultrasound unit. Then wipe the gel from the patient with a towel and inspect the treatment area.

Documentation (1)

1. Write the indication
2. Note the contraindications (if any)
3. What area(s) will you be treating?
4. Note the following parameters:
 - a. Frequency
 - b. Intensity
 - c. Duty factor
 - d. Treatment time
 - e. Position of patient
 - f. Position of therapist
5. Method of application:
6. Response of patient: (any sensation that the patient feels)

Documentation (2)

1. Write the indication
2. Note the contraindications (if any)
3. What area(s) will you be treating?
4. Note the following parameters:
 - a. Frequency
 - b. Intensity
 - c. Duty factor
 - d. Treatment time
 - e. Position of patient
 - f. Position of therapist
5. Method of application:
6. Response of patient: (any sensation that the patient feels)

Documentation (3)

1. Write the indication
2. Note the contraindications (if any)
3. What area(s) will you be treating?
4. Note the following parameters:
 - a. Frequency
 - b. Intensity
 - c. Duty factor
 - d. Treatment time
 - e. Position of patient
 - f. Position of therapist
5. Method of application:
6. Response of patient: (any sensation that the patient feels)

Documentation (4)

1. Write the indication
2. Note the contraindications (if any)
3. What area(s) will you be treating?
4. Note the following parameters:
 - a. Frequency
 - b. Intensity
 - c. Duty factor
 - d. Treatment time
 - e. Position of patient
 - f. Position of therapist
5. Method of application:
6. Response of patient: (any sensation that the patient feels)

Documentation (5)

1. Write the indication
2. Note the contraindications (if any)
3. What area(s) will you be treating?
4. Note the following parameters:
 - a. Frequency
 - b. Intensity
 - c. Duty factor
 - d. Treatment time
 - e. Position of patient
 - f. Position of therapist
5. Method of application:
6. Response of patient: (any sensation that the patient feels)

Phonophoresis

Part 1: Materials Needed

- Variable frequency ultrasound unit (1 MHz, 3 MHz)
- Aqueous (acoustically-conductive) gel
- Medication to be applied
- Towels
- Transducers head
- Pillows
- Cup of water
- Cellophane tape or micropore

Part 2: Procedures

1. Review the precautions and contraindications before applying ultrasound.
2. **The choice of US frequency:** select from either 1 MHz or 3 MHz depending on condition. (Superficial: 3 MHz; Deep: 1 MHz)
3. Inspect the skin overlying the treatment area where ultrasound will be applied. Assess for blanching, increased temperature, and the presence of scars.
4. **Testing the Transducer** for Acoustical Output:
 - a. Apply a small amount of the medication to be tested to the surface of the transducer, making sure to cover the surface of the transducer.
 - b. Make a ring of cellophane tape around the transducer so that you are creating a “well” that is capable of being filled with water.
 - c. Pour some tap water into the well so that the water depth is about 1/4 inch deep.
 - d. Set the following parameters: 1 MHz, 1.5 W/cm².

- e. If there is a disturbance in the water, then there is acoustical output from the transducer and it also indicates that the medication does in fact conduct acoustical energy.

5. Preparation of the patient:

- a. Position the patient for the application of the ultrasound so that he or she is supported in a neutral position.
- b. Remove the patient's clothing from the treatment area.
- c. Skin should be washed and hairs should be removed.

6. Caution to be taken:

- a. Always ask the patient whether or not he or she is allergic to the medication that will be applied during the iontophoresis treatment.
- b. **Document that the patient has stated that there is no known allergy to the medication to be administered before treatment begins.**

- 7. Apply sufficient quantity of medication to the transducer head and the area to be treated.
- 8. Apply a small amount of acoustically conductive gel to the surface of the ultrasound transducer, enough to cover the surface of the transducer.
- 9. Apply the transducer to the patient. Set the intensity and move the transducer to treat the patient with ultrasound.
- 10. Remind the patient what to expect during ultrasound treatment and to let you know if he or she feels anything uncomfortable.
- 11. Ensure that the transducer head is moved constantly and there is good contact between the transducer and the patient's skin.
- 12. When the treatment time concludes, remove the transducer from the patient, wipe off the gel, and carefully place it back in its cradle in the ultrasound unit. Then wipe the gel from the patient with a towel and inspect the treatment area.

Documentation (1)

1. Write the indication
2. Note the contraindications (if any)
3. Name of medication being used:
4. Any known allergy to medication:
5. What area(s) will you be treating?
6. Note the following parameters:
 - a. Frequency
 - b. Intensity
 - c. Duty factor
 - d. Treatment time
 - e. Position of patient
 - f. Position of therapist
7. Method of application:
8. Response of patient: (any sensation that the patient feels)

Documentation (2)

1. Write the indication
2. Note the contraindications (if any)
3. Name of medication being used:
4. Any known allergy to medication:
5. What area(s) will you be treating?
6. Note the following parameters:
 - a. Frequency
 - b. Intensity
 - c. Duty factor
 - d. Treatment time
 - e. Position of patient
 - f. Position of therapist
7. Method of application:
8. Response of patient: (any sensation that the patient feels)

Documentation (3)

1. Write the indication
2. Note the contraindications (if any)
3. Name of medication being used:
4. Any known allergy to medication:
5. What area(s) will you be treating?
6. Note the following parameters:
 - a. Frequency
 - b. Intensity
 - c. Duty factor
 - d. Treatment time
 - e. Position of patient
 - f. Position of therapist
7. Method of application:
8. Response of patient: (any sensation that the patient feels)

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