**King Saudi University**

**Collage of Applied Medical Science**

**Rehabilitation Health Science Department**

**Student name …………………………………………………….. Student number……………………**

**Course name: Therapeutic procedures -1- course code RHS321**

**Based on your case study please Demonstrate Steps for Practical and Clinical Application of Extracorporeal shock wave therapy (ESWT)**

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| --- | --- |
| PRACTICAL PROCEDURE | Evaluation  |
| I-Preparation of the patient (4) | **0** | **1** | **2** |
| Identify ID of the patients and check medical chart 1. Name – Identification of the patient
2. Age – Modulation of treatment (Adult/Old )
3. Sex – Provide privacy (Male/Female)
4. Occupation – Correlate the symptoms/signs of the patient for ergonomic advice if applicable
5. Chief Complaints – Generation of problem list & Setting goals (Short & long term) for the treatment
6. Side – Right or Left side of the involvement.
7. Site – Specific area/region to be treated (Anterior/Posterior/Medial/Lateral)
8. Duration of the condition :Acute/Sub-acute/Chronic (Treatment planning & Setting)
9. Diagnosis – Condition of the patient
 |  |  |  |
| Positioning of the patient1. Place patient in a well-supported, comfortable & relaxed position.
2. Expose the body part to be treated, have patient remove all jewelry from the area.
3. Drape the untreated part of the patient to preserve modesty, protect clothing, but allow easy accesses to the body part
 |  |  |  |
| Question the patient1. Verify the absence of contraindications (General & local)
2. Ask about previous ultrasound therapy treatments & check the treatment notes

Inspect body part to be treated1. Check for light touch perception
2. Check for thermal sensation (hot & cold test tubes)
3. Check circulatory conditions (Pulses, capillary refill, pallor)
4. Check skin conditions (open wound, eczema, dermatitis)
5. Explain the therapeutic benefits of ESWT
 |  |  |  |
| Instructions & Warning to the patient1. NOT TO move the treatment part,
2. NOT TO touch the power cord & the machine,
3. NOT TO sleep during the treatment.
4. NOT TO

  |  |  |  |
| II-Preparation of equipment (1) | 0 | 1 | 2 |
| Collection of equipment & Other essential Materials1. ESWT unit, power cord if not comes with the generator, adequate pillows, towels, bed sheets & foot switch, US gel.
2. All the collected materials should be placed near to the treatment couch in a table.
3. Testing of equipment & Self Demonstration
 |  |  |  |
| III- Techniques/Method of Application of LLLT for treatment (4) | **0** | **1** | **2** |
| Select appropriate method of ESWT treatment. (student should be able to describe and apply) selected techniques Select appropriate ESWT types 1. Focus (e.g. electromagnetic, electrohydraulic, piezoelectric )
2. Radial (e.g. pneumatic)

Select appropriate ESWT treatment parameters  Energy flux density mild/moderate energy (start at low energy(intensity) then increase 1. LOW (up to 0.28mJ/mm2)
2. MEDIUM (up to 0.59mJ/mm2)

N.B: Shock wave intensity according to well wave device (1-20) Setting the pulse rate (frequency) (1-8Hz) Setting number of shock 1. Using the F unction key in well wave device
2. Shock number between 1000 - 2000,(not exceed 400/500 per point)

Preparation of ESWT transducers Select suitable size according to depth of penetration (up to 3cm) 1. The wider the surface-------------------deep penetration
2. The narrower the surface ------------superficial penetration

Add coupling gel1. Turn the twist-lock rang counter clockwise and remove it
2. Remove the gel pad
3. Add sufficient amount of US gel in the center of transducer
4. Put the gel pad
5. Turn the twist-lock rang clockwise to lock it

Use shock wave triggering footswitch (e.g. well wave ESWT)  |  |  |  |
| Termination of the treatment & Checking the patients for any adverse reactions 1. As the treatment time is over, switch OFF the ESWT& move away from the patient.
2. Inspect the treatment area for any adverse reactions)skinirratition,hematomes)
3. Ask the patient to maintain the same position for minutes (In order to avoid postural hypotension – if you are choosing supine/prone position) & then to sit/stand.
 |  |  |  |
| IV- Documentation and follow-up (1) |  |  |  |
| 1. Record the side, site, duration & condition of the patient.
2. ESWT types, mode, frequency, energy.
3. Treatment time.
4. Any adverse reactions: Ask the patient response/feeling towards the treatment area.
5. Follow up: Fix up the next appointment with the patient
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