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Submission date: 11-Sep-2021 03:16PM (UTC-0400)

Submission ID: 1646026439

File name: Health_Care.docx (23.11K)

Word count: 614

Character count: 3684

Outline Content of a Clinical Examination

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Outline Content of a Clinical Examination

The table below provides an outline content of a clinical examination. All the sections have contents presented in subheadings in the form A.1.a, B.1.a.

Therapist Multiple-Choice Examination Detailed Content Outline
A. DATA OF THE PATIENT
1. Evaluation of Data in the Patient's Record
a. History of the patient, which include; <ul style="list-style-type: none"> • Present illness history • Medical and family history • Status of DNR
b. Trends in monitoring results <ul style="list-style-type: none"> i. Noninvasive <ul style="list-style-type: none"> • Ear and fingertip oximetry • Transcutaneous and conjunctival sensors • Capnography
2. Performance of Clinical Assessment
a. Conducting interview on the patient to determine; <ul style="list-style-type: none"> • Exposure to the environment • History in smoking • Amount of pain • Cooperation ability • Daily lifestyle activities
b. Inspection to determine; <ul style="list-style-type: none"> • The appearance of the patient • Coughs
c. Auscultation of blood pressure, heart rhythm and breathing sounds
3. Performance of Procedures to Collect Clinical Data and Information
a. Noninvasive monitoring and includes <ul style="list-style-type: none"> • Oximetry of pulse • Transcutaneous and conjunctival sensors • Capnography
b. Collection of blood gas samples
c. Analysis of blood gas samples
d. Therapeutic bronchoscopy
e. Walk or exercise testing
4. Evaluation of Procedure Results
a. Noninvasive monitoring, which includes <ul style="list-style-type: none"> • Oximetry of pulse • Transcutaneous and conjunctival sensors • Capnography
b. Analysis of the blood gas

5. Recommendation of Diagnostic Procedures
a. Noninvasive monitoring and include; <ul style="list-style-type: none"> • Oximetry of pulse • Transcutaneous and conjunctival sensors • Capnography
b. Lab tests, which include <ul style="list-style-type: none"> • Cardiac biomarkers • Electrolytes • CBC
B. TROUBLESHOOTING AND QUALITY CONTROL OF DEVICES AND INFECTION CONTROL
1. Troubleshooting or Assembling of Devices
a. Noninvasive monitoring, which includes; <ul style="list-style-type: none"> • Oximetry of pulse • Transcutaneous and conjunctival sensors • Capnography
b. Suctioning equipment, such as, <ul style="list-style-type: none"> • Tubing • Regulators
c. Mechanical ventilators
d. Medical gas devices, such as, <ul style="list-style-type: none"> • Blenders • Regulators • Air compressor
2. Performance of Quality Control Procedures
a. Noninvasive monitors
b. Gas and blood analyzers
c. Mechanical ventilators

Definition of Transcutaneous PO₂ and PCO₂

Transcutaneous PO₂ is a technique used in measuring and monitoring arterial oxygen tension. Transcutaneous PCO₂ is the technique used to monitor and assess assisted ventilation in neonatal intensive care but with limited use in the operation room (Van Weteringen et al., 2020).

Clinical Practice Guidelines for Transcutaneous Blood Gas Monitoring of Oxygen and Carbon Dioxide

TCM use is indicated in patients who need continuous monitoring of O₂ and CO₂. TCM permits the assessment of oxygenation adequacy and response to diagnostic interventions (Umeda et al., 2021). TCM also allows assessment of tissue perfusion status in a wound care and monitor therapy response in patients who have diabetic ketoacidosis. Currently, there is no validated documentation of contraindications for the use of TCM. Consideration should be done in patients with poor skin integrity. Even though Transcutaneous PO₂ and PCO₂ monitoring are claimed to be safe processes, some complications may be involved, such as

misinterpretation of decrease in O₂ and CO₂ levels and this can lead to poor patient treatment (Umeda et al., 2021). Some injuries such as burns, erythema and skin tears may also occur. Some limitations that may affect results may be clinical or device-related. Clinical conditions may include shock, incorrect application of electrodes or increased thickness of the skin. Some of the device-related situations include labor-intensive in setting up the designs, time-consuming in stabilization and poor calibration.

References

- Umeda, A., Ishizaka, M., Ikeda, A., Miyagawa, K., Mochida, A., Takeda, H., ... & Gozal, D. (2021). Recent Insights into the Measurement of Carbon Dioxide Concentrations for Clinical Practice in Respiratory Medicine. *Sensors*, *21*(16), 5636.
- Van Weteringen, W., Goos, T. G., Van Essen, T., Ellenberger, C., Hayoz, J., De Jonge, R. C., ... & Schumacher, P. M. (2020). Novel transcutaneous sensor combining optical tcPO₂ and electrochemical tcPCO₂ monitoring with reflectance pulse oximetry. *Medical & biological engineering & computing*, *58*(2), 239-247.

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