“PREPARING FOR THE NBRC EXAMINATIONS”

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TMC EXAMINATION

- 3 major content areas
  - Clinical data, equipment, therapeutic procedures

- 3 hour time limit
  - Track your progress
    - #60 by the end of the first hour

- 160 Multiple-choice questions
  - 140 scored; 20 pretest items
  - High cut score – 94, low cut score – 88
The outline for the TMC Exam indicates the areas tested on the exams

This review is designed as a matrix based approach
- Provides example test questions and information pertinent to examination success
Type of questions (Cognitive levels)

Recall – the ability to recall or recognize specific respiratory care information (31 questions)

Application – the ability to comprehend, relate, or apply knowledge to new or changing situations (61 questions)

Analysis – the ability to analyze information, put information together to arrive at solution, or evaluate the usefulness of the solutions (48 questions)
CLINICAL SIMULATIONS

- 22 simulations
  - 20 count toward the grade

- Scenarios are designed to flow just like a real patient case
  - The same way data is delivered and care decisions are made in the hospital setting

- Branching logic format
  - You will choose your own path
    - But only one path is the best
    - There will be others that are acceptable
    - As well as those that are unacceptable

- 4 hour time limit
  - 6 per hour
MY BEST FRIEND, BUDDY!
Multiple true–false questions

Example:

While assessing a patient’s chest radiograph the respiratory therapist observes an area of hyperlucency. This may be the result of which of the following?

1. hyperinflation
2. atelectasis
3. emphysema
4. pneumothorax

A. 1 and 3 only
B. 2 and 3 only
C. 1, 3 and 4 only
D. 2, 3 and 4 only
Answers meaning the same thing

Example:

The following data has been obtained from a patient on volume control ventilation and a tidal volume of 600 mL.

<table>
<thead>
<tr>
<th>Time</th>
<th>peak pressure (cm H\textsubscript{2}O)</th>
<th>plateau pressure (cm H\textsubscript{2}O)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 PM</td>
<td>38</td>
<td>18</td>
</tr>
<tr>
<td>2 PM</td>
<td>42</td>
<td>23</td>
</tr>
<tr>
<td>3 PM</td>
<td>46</td>
<td>26</td>
</tr>
</tbody>
</table>

Which of the following statements regarding these data are true?

A. Lung compliance is decreasing.
B. Airway resistance is decreasing.
C. The lungs are becoming easier to ventilate.
D. Lung compliance is increasing.
The following PFT values have been obtained on a 57-year-old male.

<table>
<thead>
<tr>
<th></th>
<th>Actual</th>
<th>Predicted</th>
<th>%Predicted</th>
</tr>
</thead>
<tbody>
<tr>
<td>FEV₁</td>
<td>1.4 L</td>
<td>3.0 L</td>
<td>47%</td>
</tr>
<tr>
<td>FEV/FVC</td>
<td>48%</td>
<td>70%</td>
<td></td>
</tr>
<tr>
<td>VC</td>
<td>2.1 L</td>
<td>3.8 L</td>
<td>55%</td>
</tr>
<tr>
<td>TLC</td>
<td>6.4 L</td>
<td>4.8 L</td>
<td>133%</td>
</tr>
<tr>
<td>FRC</td>
<td>3.4 L</td>
<td>2.5 L</td>
<td>136%</td>
</tr>
</tbody>
</table>

Which of the following pulmonary disorders is consistent with these findings?

A. pulmonary fibrosis  
B. pneumonia  
C. atelectasis  
D. emphysema
Math Short-Cuts

Example:

\[ \text{Hb} = 1.34 \times \text{Hb} \times \text{SaO}_2 \]
\[ \text{Plasma} = .003 \times \text{PaO}_2 \]

On exam, don’t calculate how much is dissolved in the plasma since it’s always less than 1.

Calculate how much is bound to Hb and pick the answer closest to that number and just higher.
For example, oxygen bound to Hb is 16 mL/dL.

A. 15.8 mL/dL
B. 16.4 mL/dL
C. 17.8 mL/dL
D. 18.7 mL/dL

Correct answer: B
The following data has been collected on a patient in ICU on a 40% aerosol mask.

- pH: 7.44
- $\text{PaCO}_2$: 42 torr
- $\text{PaO}_2$: 90 torr
- $P_B$: 747 torr

Based on this information, which of the following represents this patient’s $P(A-a)O_2$?

A. 134 torr  
B. 224 torr  
C. 318 torr  
D. 405 torr
Calculate $P_AO_2$ using alveolar air equation:

$[ (PB - 47) \times FIO_2 ] - (PaCO_2 \times 1.25)$

Short cut equation:

$(7 \times O_2\%) - (PaCO_2 + 10)$

$= (7 \times 40) - (42 + 10)$

$= 280 - 52$

$= 228$ torr

Subtract $PaO_2$ from $P_AO_2$.

$228 - 90 = 138$ torr

(standard equation=134 torr)
Test Preparation Strategies

- Study, study, study
  - BUT DON’T CRAM!

- Take as many practice exams as possible
  - This will allow you to identify weaknesses

- Know where the testing center is (consider traffic)
Test Preparation Strategies

- Eat a good dinner the night before, avoiding alcohol
- Don’t study the night before the exam
- Sleep well
  - Plan to get up early with an alarm
  - Avoid sleeping pills
- Allow time for a good breakfast
  - That will get you through lunch
- Minimize caffeine
  - The adrenaline will be pumping
QUESTIONS??
THAT’S IT, TIME TO GO!!