# Bedside Pulmonary Mechanics

**Setting:**  
- [ ] Lab  
- [ ] Clinical

**Conditions (describe):**

**Equipment Used**

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## Equipment and Patient Preparation

1. Verifies, interprets, and evaluates physician’s order or protocol
2. Scans chart for diagnosis and any other pertinent data and notes  
3. Selects, gathers, and assembles the necessary equipment
4. Washes hands and applies standard precautions and transmission-based isolation procedures as appropriate
5. Identifies patient, introduces self and department
6. Explains purpose of the procedure and confirms patient understanding

## Assessment and Implementation

7. Assesses patient’s pulse, respiratory rate, and respiratory pattern
8. Positions patient
9. Assembles one-way valve monitoring adaptor and connects it to the respirometer
10. Instructs the patient to breathe normally
11. Applies noseclips
12. Connects patient to the monitoring system
13. Measures minute ventilation
14. Simultaneously measures respiratory rate
15. Assesses patient’s tolerance of the procedure
16. Disconnects the noseclips and respirometer
17. Instructs patient in the performance of a slow vital capacity
18. Applies noseclips and connects the patient to the respirometer
19. Measures the slow vital capacity
20. Assesses patient performance and tolerance
21. Repeats the slow vital capacity at least two more times, allowing for adequate recovery between attempts
22. Removes the respirometer and noseclips
23. Instructs the patient in the performance of a maximal inspiratory and expiratory pressure
24. Assembles adaptors and manometer
25. Applies noseclips or mask
26. Measures maximal inspiratory and expiratory pressures
27. Assesses patient’s performance and tolerance
28. Allows adequate recovery time
29. Instructs the patient in the performance of a peak flow maneuver
30. Applies noseclips and positions mouthpiece properly
31. Measures peak flow
32. Assesses patient performance and tolerance
33. Repeats peak flow measurement at least two more times

For the sake of completeness, the evaluation form includes sections for "Satisfactory" and "Not Satisfactory" ratings, which are not shown here. The form is designed to assess a range of skills related to pulmonary mechanics in a bedside setting.
34. Allows for adequate recovery between attempts

35. Assesses patient and makes sure the patient is returned to pretesting status

<table>
<thead>
<tr>
<th>Follow-up</th>
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<tbody>
<tr>
<td>36. Corrects measured values for <strong>body temperature and pressure, saturated (BTPS)</strong></td>
<td></td>
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<tr>
<td>37. Maintains/processes equipment</td>
<td></td>
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<tr>
<td>38. Disposes of infectious waste and washes hands</td>
<td></td>
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<tr>
<td>39. Calculates $V_t$</td>
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<tr>
<td>40. Reviews data for the presence of critical values</td>
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<tr>
<td>41. Records best data in chart and departmental records</td>
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<tr>
<td>42. Notifies appropriate personnel and makes any necessary recommendations or modifications to the patient care plan</td>
<td></td>
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</tbody>
</table>

Signature of Evaluator

Signature of Student
PERFORMANCE RATING SCALE

5 EXCELLENT – FAR EXCEEDS EXPECTED LEVEL, FLAWLESS PERFORMANCE
4 ABOVE AVERAGE – NO PROMPTING REQUIRED, ABLE TO SELF-CORRECT
3 AVERAGE – THE MINIMUM COMPETENCY LEVEL, NO CRITICAL ERRORS
2 IMPROVEMENT NEEDED – PROBLEM AREAS EXIST; CRITICAL ERRORS, CORRECTIONS NEEDED
1 POOR AND UNACCEPTABLE PERFORMANCE – GROSS INACCURACIES, POTENTIALLY HARMFUL

PERFORMANCE CRITERIA

<table>
<thead>
<tr>
<th>PERFORMANCE CRITERIA</th>
<th>SCALE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. DISPLAYS KNOWLEDGE OF ESSENTIAL CONCEPTS</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>2. DEMONSTRATES THE RELATIONSHIP BETWEEN THEORY AND CLINICAL PRACTICE</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>3. FOLLOWS DIRECTIONS, EXHIBITS SOUND JUDGEMENT, AND DEMONSTRATES ATTENTION TO SAFETY AND DETAIL</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>4. EXHIBITS THE REQUIRED MANUAL DEXTERITY</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>5. PERFORMS PROCEDURE IN A REASONABLE TIME FRAME</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>6. MAINTAINS STERILE OR ASEPTIC TECHNIQUE</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>7. INITIATES UNAMBIGUOUS GOAL-DIRECTED COMMUNICATION</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>8. PROVIDES FOR ADEQUATE CARE AND MAINTENANCE OF EQUIPMENT AND SUPPLIES</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>9. EXHIBITS COURTEOUS AND PLEASANT DEMEANOR</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>10. MAINTAINS CONCISE AND ACCURATE RECORDS</td>
<td>5 4 3 2 1</td>
</tr>
</tbody>
</table>

ADDITIONAL COMMENTS: INCLUDE ERRORS OF OMISSION OR COMMISSION, COMMUNICATIVE SKILLS, AND EFFECTIVENESS OF PATIENT INTERACTION:

SUMMARY PERFORMANCE EVALUATION AND RECOMMENDATIONS

SATISFACTORY PERFORMANCE – Performed without error or prompting, or able to self-correct, no critical errors.

_______ LABORATORY EVALUATION. SKILLS MAY BE APPLIED/OBSERVED IN THE CLINICAL SETTING.

_______ CLINICAL EVALUATION. STUDENT READY FOR MINIMALLY SUPERVISED APPLICATION AND REFINEMENT.

UNSATISFACTORY PERFORMANCE – Prompting required; performed with critical errors, potentially harmful.

_______ STUDENT REQUIRES ADDITIONAL LABORATORY PRACTICE.

_______ STUDENT REQUIRES ADDITIONAL SUPERVISED CLINICAL PRACTICE.

SIGNATURES

STUDENT: ________________________________________    EVALUATOR: ________________________________________

DATE: ____________________________________________    DATE: ____________________________________________

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