Low Provider Knowledge of Inhaler Technique Requires Urgent Attention

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Raise your hand if you know the names of these devices and each step in their proper use:

5. How adequate do you feel in coaching your patients about proper inhaler technique?

Not Adequate

0

10 Very Adequate

6. Write the name of each inhaler below its picture.
This physician thought he knew...
I have no financial relationship with Lucas films...
Proper inhaler technique is necessary to treat obstructive lung diseases

- Factors affecting patient’s learning of inhaler technique:
  - Education received – HCP most important source
  - Patient’s educational/reading level
  - Patient motivation and self efficacy
  - Complexity of devices and Tx regimen
Healthcare providers are the main source of patient education, therefore, provider knowledge is crucial in teaching proper inhaler technique.
• **Objective:**
  Assess provider knowledge about inhalers

• **Hypothesis:**
  Provider knowledge about inhaled devices and technique are not adequate
Methods

• A questionnaire about inhaler use administered to **21** internal medicine residents grouped by PGY level (10 PGY-1, 6 PGY-2 & 5 PGY-3) to assess the following domains:

  • Education the provider received and the source of education
  
  • The resident's perception of their adequacy of inhaler knowledge
  
  • The ability to identify commonly used inhalers
  
  • Knowledge of inhaler technique
  
  • Clinical practice patterns on educating patients
  
  • Barriers felt to providing education
  
  • Perceived need for formal education
Results

Residents Who Received Formal Training

- 27% From a Pharm. Rep.
- 35% From a Physician
- 62% Received Formal Teaching
Results

Self Efficacy of Residents using a visual analog scale (0-10)

• How adequate residents felt at providing inhaler training
  6.7 +/- 2.1

• The level of confidence residents had in being able to learn how to properly use an inhaler if they were a patient after only a quick demonstration
  7.0 +/- 2.1
Results

- Color images of six commonly used MDIs & DPIs were provided. Only 47% were correctly identified.

- 57% provided education by some method >50% of the time.

- 28% were able to correctly list 4 of 7 steps considered crucial.

- None were able to list all steps.
Results

• Constraints in educating patients:

- Lack of Time: 38%
- Lack of Training: 33%
- Futility: 9%
- No Response: 20%

• 91% reported that additional training would increase the frequency of patient teaching in their practice.
Discussion
Discussion

Our study of resident physicians shows:

• Low provider knowledge about inhalers
  • 47% rate if identifying common inhalers
  • 0% rate of listing all steps for correct MDI technique

• Consequences:
  • Low self-efficacy about ability to educate patients
  • Low rate of educating patients on Inhalers – 57%

• Barriers to educating patients:
  • Time
  • Lack of training
Medical Personnel’s Knowledge of and Ability to Use Inhaling Devices*  
Metered-Dose Inhalers, Spacing Chambers, and Breath-actuated Dry Powder Inhalers

Nicola A. Hanania, M.D.; Richard Wittman; Steven Kesten, M.D., F.C.C.P.; and Kenneth R. Chapman, M.D., F.C.C.P.

Table 3—Percent Mean (± SD) Demonstration and Knowledge Scores*

<table>
<thead>
<tr>
<th>Knowledge Score</th>
<th>Demonstration Score</th>
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<tbody>
<tr>
<td></td>
<td>MDI</td>
</tr>
<tr>
<td>RT</td>
<td>67 ± 5</td>
</tr>
<tr>
<td>RN</td>
<td>39 ± 7</td>
</tr>
<tr>
<td>MD</td>
<td>48 ± 7</td>
</tr>
</tbody>
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*MDI = metered-dose inhaler; RT = respiratory therapist; RN = registered nurse; MD = house staff physician.

(Chest 1994; 105: 111-16)
Discussion

- "An estimated $25 billion spent on inhalers annually"
- "28-68% of patients reported to use inhalers incorrectly"
- "Approximately $7-15.7 billion wasted annually"
Discussion

- "39-67% of healthcare professionals, including physicians, cannot adequately describe or perform steps necessary for proper inhaler use"

"Management of chronic airways disease is 10% medication and 90% education."

It's not that complicated...
Please Visit
www.use-inhalers.com

• A comprehensive online tool for provider and patient education

• Can reduce time burden on busy providers by incorporating in daily workflow

• Interactive, engaging education on all inhaler devices
Conclusion

- Provider knowledge of inhalers is highly inadequate

- There is an urgent need to educate providers before we can expect them to adequately educate their patients.