Treating Tobacco Use and Dependence Guidelines

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Pulmonary Rehabilitation Coordinator
Cleveland Clinic Foundation
Treating Tobacco Use and Dependence Guidelines: Objectives

- To understand current guideline summaries and their application for tobacco cessation
- To be able to identify national reports that can provide additional resources for tobacco cessation
- To provide information regarding where current research is being conducted
Treating Tobacco Use and Dependence Guidelines

- Guideline summaries
- National reports
- Research
Why is a summary necessary?

• Resource for quick information
• Too much information
  • Google search of Tobacco Cessation Guidelines = 589,000 !!
• Tobacco addiction remains high
• Increasing world wide burden
• Increased health care cost
Why is a summary necessary?

Medline: Smoking cessation articles search

Number of smoking cessation articles

2000 2001 2002 2003 2004
Evidence

• The ineffective approach
  • Look it up in a textbook

• The inefficient approach
  • Do a Pubmed search / Internet search. Tobacco cessation search 8,707 articles!

• The efficient approach
  • Evidence-based clinical practice guidelines
Evidence

- United States Department of Health and Human Services (USDHHS) Clinical Practice Guidelines on Treating Tobacco Use and Dependence
  - Updated 2000
  - Original 1996
  - 6000 total articles
  - 5 month abstinence
- Cochrane collaboration
  - Updated regularly (2002)
  - 6-12 month abstinence
  - Randomized trials
  - Analysis of subgroups
  - Provide details of methods
## Summary of Strength of Evidence for Recommendations

<table>
<thead>
<tr>
<th>Strength of evidence classification</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strength of evidence = A</td>
<td>Multiple will-designed randomized clinical trial, directly relevant to the recommendation, yielded a consistent pattern of findings.</td>
</tr>
<tr>
<td>Strength of evidence = B</td>
<td>Some evidence from randomized clinical trials supported the recommendation, but the scientific support was not optimal. For instance, few randomized trials existed, the trials that did exist were somewhat inconsistent, or the trials were not directly relevant to the recommendation.</td>
</tr>
<tr>
<td>Strength of evidence = C</td>
<td>Reserved for important clinical situations where the panel achieved consensus on the recommendation in the absence of relevant randomized controlled trials.</td>
</tr>
</tbody>
</table>

Treating Tobacco Use and Dependence Guidelines

- Guideline summaries
  - Behavioral interventions
  - Pharmacotherapy
  - Combination therapy
**Behavioral Interventions**

- All work to varying degrees
  - Physician advice
  - Nurse or nonphysician advice
  - Individual counseling
  - Group counseling
  - Telephone counseling
  - Self-help
## Behavioral Interventions

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Improvement in cessation over controls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physician advice</td>
<td>2-3%</td>
</tr>
<tr>
<td>Non-physician advice</td>
<td>1-5.6%</td>
</tr>
<tr>
<td>Individual</td>
<td>4-6%</td>
</tr>
<tr>
<td>Group counseling</td>
<td>3-10.1%</td>
</tr>
<tr>
<td>Self help</td>
<td>1-1.5%</td>
</tr>
<tr>
<td>Telephone counseling</td>
<td>2.3-2.4%</td>
</tr>
</tbody>
</table>

Minimal Intervention
The 5 A’s

- Ask
- Advise
- Assess
- Assist
- Arrange

Smoking and Tobacco Related Issues Networking Group (String)

Enhancing Motivation to Quit
The 5 R’s

- Relevance
- Risk
- Rewards
- Roadblocks
- Repetition


June 2000
Behavioral Intervention

- Dose response
  - Intensity of counseling, time per session
  - Total contact time
  - Number of sessions
  - Number of formats
  - Numbers of various clinicians
Table 12. Estimated abstinence rates for various intensity levels of person-to-person contact (N=43 studies)

<table>
<thead>
<tr>
<th>Level of contact</th>
<th>Estimated abstinence rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No minutes</td>
<td>10</td>
</tr>
<tr>
<td>1-3 minutes</td>
<td>15</td>
</tr>
<tr>
<td>4-30 minutes</td>
<td>20</td>
</tr>
<tr>
<td>31-90 minutes</td>
<td>25</td>
</tr>
</tbody>
</table>

Table 14. Estimated abstinence rates for number of person-to-person treatment sessions (N=43 studies)

<table>
<thead>
<tr>
<th>Number of Sessions</th>
<th>Estimated Abstinence Rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-1 session</td>
<td>10%</td>
</tr>
<tr>
<td>2-3 sessions</td>
<td>15%</td>
</tr>
<tr>
<td>4-8 sessions</td>
<td>20%</td>
</tr>
<tr>
<td>&gt;8 sessions</td>
<td>25%</td>
</tr>
</tbody>
</table>

Table 11. Meta-analysis: estimated abstinence rates for number of formats* (n=54)

<table>
<thead>
<tr>
<th>Number of formats</th>
<th>Estimated Abstinence rate %</th>
</tr>
</thead>
<tbody>
<tr>
<td>No format</td>
<td>10</td>
</tr>
<tr>
<td>One format</td>
<td>15</td>
</tr>
<tr>
<td>Two formats</td>
<td>20</td>
</tr>
<tr>
<td>Three or four formats</td>
<td>25</td>
</tr>
</tbody>
</table>

* Formats included self-help, proactive telephone counseling, group or individual counseling

Table 11. Meta-analysis: Interventions Delivered by Various Numbers of Clinicians

<table>
<thead>
<tr>
<th>Number of Clinician Types</th>
<th>Estimated Abstinence rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>No clinician</td>
<td>10%</td>
</tr>
<tr>
<td>One clinician type</td>
<td>15%</td>
</tr>
<tr>
<td>Two clinician types</td>
<td>20%</td>
</tr>
<tr>
<td>Three or more clinician types</td>
<td>25%</td>
</tr>
</tbody>
</table>

Table 13. Meta-analysis: Estimated abstinence rates for total amount of contact time (n=35 studies)

<table>
<thead>
<tr>
<th>Total contact time</th>
<th>Estimated abstinence rate %</th>
</tr>
</thead>
<tbody>
<tr>
<td>No minutes</td>
<td>0</td>
</tr>
<tr>
<td>1-3 minutes</td>
<td>10</td>
</tr>
<tr>
<td>4-30 minutes</td>
<td>15</td>
</tr>
<tr>
<td>31-90 minutes</td>
<td>20</td>
</tr>
<tr>
<td>91-300 minutes</td>
<td>25</td>
</tr>
<tr>
<td>&lt; 300 minutes</td>
<td>30</td>
</tr>
</tbody>
</table>

Pharmacology

All effective to varying degrees

- Five first-line tobacco cessation medicines
  - Nicotine gum (polacrilex)
  - Nicotine patch
  - Nicotine nasal spray
  - Nicotine inhaler
  - Bupropion

- Two second-line tobacco cessation medicines
  - Clonidine
  - Nortriptyline

# First Line Pharmacology

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Improvement in cessation over controls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nicotine Gum 2 mg or 4 mg</td>
<td>6.6-8%</td>
</tr>
<tr>
<td>Nicotine patch 7-21 mg</td>
<td>6-7.7%</td>
</tr>
<tr>
<td>Nicotine Nasal Spray</td>
<td>12-16.6%</td>
</tr>
<tr>
<td>Nicotine Inhaler</td>
<td>8-12.3%</td>
</tr>
<tr>
<td>Bupropion</td>
<td>10-13.2%</td>
</tr>
</tbody>
</table>

First Line Pharmacology

- Highly addicted
  - Greater than 20 cigarettes/day
  - First cigarette within the 30 minutes of waking
- Use increase dose of NRT
  - 4mg gum or lozenge versus 2mg

Second Line Pharmacology

- Two second-line tobacco cessation medicines
  - Clonidine
  - Nortriptyline
- Recommended case by case
- Not approved by Food and Drug Administration (FDA) for tobacco dependence
- More potential side effects than first line pharmacology

**Second Line Pharmacology**

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Improvement in cessation over controls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clonidine</td>
<td>11-11.7%</td>
</tr>
<tr>
<td>Nortriptyline</td>
<td>12-18.4%</td>
</tr>
</tbody>
</table>

Alternative: Not endorsed at this time but may prove effective

- Behavioral
  - Hypnotherapy
  - Aversive therapy
  - Acupuncture
  - Exercise

- Pharmacological
  - Lobeline Nicotine agonist
  - Anxiolytics
    - Diazepam
    - Meproproprobomate
    - Metoprolol
    - Oxprenolol
    - Mecamaylamine
    - Nicotine agonist
Combined Therapies

- More than one NRT for highly addicted or failed previous NRT cessation trials recommended by USDSS Clinical Practice Guidelines.
  - 3 pooled studies
  - Improved cessation by 11% over monotherapy

- More restraint urged by Cochrane Database
Combined Therapies

- Combined behavioral and interventional
  - Lung Health Study
    - 10 Centers enrolled 5887 mild COPD patients who smoke
    - Randomized to 3 groups
      - Usual care (1964 control vs 3923 intervention)
      - Smoking cessation plus inhaled ipratropium
      - Smoking cessation plus inhaled placebo
Combined Therapies

- Combined behavioral and interventional
  - Lung Health Study
    - Smoking cessation involved
      - Intensive 12 session intervention
      - Individual intervention
      - Nicotine polacrilex (gum)
Lung Health Study Results

- 11 year abstinence
  - 22% intervention vs. 6% control \(^1\)
- 11 year FEV1 decline per year
  - non smokers vs smokers \(^2\)
  - Men 30cc vs 66cc
  - Women 21cc vs 54cc
- Nicotine polocrilex is safe and unrelated to cardiovascular illness \(^3\)

Smoking and Tobacco Related Issues Networking Group (STRING)

Treating Tobacco Use and Dependence Guidelines

- Guideline summaries
- National reports
- Research
National Reports and Organizations

- National Institutes of Health (NIH)  http://health.nih.gov

- U.S. Surgeon General  http://www.surgeongeneral.gov/tobacco/default.htm

National Reports and Organizations

- National Cancer Institute (NCI) http://www.nci.nih.gov
- American Lung Association http://www.lungusa.org
- Smokefree.Gov
Treating Tobacco Use and Dependence Guidelines

- Guideline summaries
- National reports
- Research
Research

• Robert Wood Johnson Foundation http://www.rwjf.org

• National Cancer Institute: http://dccps.nci.nih.gov/tcrb/

• Transdisciplinary Tobacco Use Research Center: www.tturc
Treating Tobacco Use and Dependence Guidelines: Conclusion

- Reviewed current guideline summaries for tobacco cessation
- Identified national reports that can provide additional resources for tobacco cessation
- Provided information regarding where current research is being conducted