Appropriate Cancer Imaging

Cancer Care Ontario’s disease pathway approach for guideline endorsement

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Appropriate Imaging – Vision and Goals

Up to date evidence-based guidelines allow imaging professionals and cancer care providers to make informed decisions about the most appropriate health care for specific circumstances.

Vision

- Appropriate imaging – right test at the right time
  - Ensure patients are being referred for tests that would benefit them. Optimize safety and system resources by avoiding unnecessary tests.

Goals

- Reduce variation in patient care regarding imaging
- Facilitate timely, streamlined access to appropriate imaging by providing guidance
- Endorse existing relevant, high quality, evidence-based guidelines for cancer imaging, avoiding costly/time-intensive duplication of effort
Issues/Navigating Existing Guidelines

- Cancer Care Ontario’s Cancer Imaging Program (CIP) conducted a Stakeholder survey in 2010 and found:
  - Strong belief that patients should be referred based on guidelines and standards, but that **awareness and use of guidelines was less than 50%**

- 2010 CPAC\(^1\) review of lung guidelines published from 2003 & 2008 found:
  - 93 lung cancer clinical practice guidelines, developed by 22 groups
  - Duplication of coverage for guidance

Guidelines are only beneficial if they are used. The CIP looked to provide guidance across the patient journey in a format integrated with workflows while leveraging existing guidelines with a strong evidence base

CIP Guideline Endorsement - Purpose

To increase the awareness of existing guidelines with the goal of reducing variation in patient care and facilitating timely, streamlined access to appropriate imaging, the CIP looked to:

1. Provide a tool to improve guideline utilization and appropriate imaging;
2. Provide guidance regarding appropriate imaging using a disease pathway approach;
3. Increase awareness of existing quality imaging guidelines surrounding specific disease sites;
4. Provide a methodology to endorse quality imaging guidelines surrounding specific disease sites.
Learning Objectives

Skills:
Be able to integrate high-quality guidelines and disease pathway maps to provide decision support tool for appropriate imaging

Education:
• Determine imaging decision points by leveraging disease pathway maps
• Identify and select relevant high quality guidelines
• Improve usability of existing guidance by incorporating relevant recommendations into disease pathway framework
CIP Guideline Endorsement - Methods

- Disease Pathway Maps (DPMs)
  - comprehensive pathways of disease-specific cancer journey’s

- The CIP worked with the DPM team to create a radiology cut of the pathway

- Critical imaging nodes identified in pathway
CIP Guideline Endorsement - Methods

Guideline selection and review

- Lung cancer imaging guidelines identified by internet search using:
  - The Program in Evidence Based Care preferred list of guideline developers
  - Guideline directories of Canadian and international health organizations
  - The National Guidelines Clearinghouse

- Guidelines were screened for relevance by lead author
  - All relevant guidelines reviewed by other members of the working group.

- Selected relevant guidelines assessed for quality
  - Using the AGREE II scores available through the SAGE database

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CIP Guideline Endorsement - Methods

- Recommendations relevant to the decision identified through DPM complied and reviewed by the working group as candidates for endorsement

<table>
<thead>
<tr>
<th>Initial presentation</th>
<th>CIP Recommendations</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Clinical Suspicion</td>
<td>Chest x-ray</td>
<td>GCO 2011 Ref 3</td>
</tr>
<tr>
<td>2. Chest x-ray negative but high level of suspicion</td>
<td>CT scan of thorax and upper abdomen</td>
<td>NICE 2011.1.4 Ref 4</td>
</tr>
<tr>
<td>3. Chest x-ray SPN</td>
<td>Review previous images If no previous - CT scan of thorax and upper abdomen</td>
<td>NICE 2011.3.2 Ref 4</td>
</tr>
<tr>
<td>4. Chest x-ray Mass</td>
<td>CT scan of thorax and upper abdomen</td>
<td>NICE 2011.3.2 Ref 4</td>
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<tr>
<th>Diagnosis – Positive CT scan</th>
<th>CIP Recommendations</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>5. Peripheral Mass or suspicious lung nodule</td>
<td>Needle biopsy – fine or core</td>
<td>NICE 2011.3.14 Ref 4</td>
</tr>
<tr>
<td>6. Peripheral Mass or suspicious lung nodule</td>
<td>PET/CT if needle biopsy not possible or inconclusive</td>
<td>GCO 2007 Ref 5</td>
</tr>
<tr>
<td>7. Central Mass</td>
<td>Needle biopsy – fine or core if failed endoscopic biopsy If both not possible - PET/CT</td>
<td>NICE 2011.3.15 Ref 4</td>
</tr>
<tr>
<td>8. Central Mass</td>
<td>PET/CT if both fine/core and endoscopic biopsy not possible</td>
<td>GCO 2007 Ref 5</td>
</tr>
<tr>
<td>9. Suspended stage 4</td>
<td>Tissue biopsy from easiest site</td>
<td>NICE 2011.3.25 Ref 4</td>
</tr>
<tr>
<td>10. Pleural effusion</td>
<td>Thoracentesis, ultrasound guided if necessary</td>
<td>ACCP 2007 Ref 6</td>
</tr>
<tr>
<td>11. Chest wall involvement</td>
<td>Consider US</td>
<td>NICE 2011.3.3 Ref 4</td>
</tr>
</tbody>
</table>
CIP Guideline Endorsement - Methods

Endorsed recommendations were reviewed:
- Internally by CIP Clinical leads
- Externally by a group of health professionals including radiologists and other imaging professionals, medical oncologists, radiation oncologists, surgeons

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CIP Guideline Endorsement – Current Status

- Lung Cancer Diagnosis and Screening Guideline Endorsement has been externally reviewed

- Working with disease pathway (DPM) group and other stakeholders on knowledge transfer to:
  - Ensure the recommendations are being used in practice
  - Focus on how can be incorporated into workflows efficiently

- Currently developing indicators to evaluate uptake of recommendations and improvements to variation in patient care

- Extending to other disease sites:
  - Framework used in the Lung Cancer Guideline Endorsement is applicable to other disease sites and DPMs
  - Colorectal cancer in progress

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Summary

• Good quality cancer imaging guidelines exist, but are not being used

• Integrating high-quality guidelines and disease pathway maps provides a decision support tool for appropriate imaging

• Embedding relevant recommendations into disease pathway framework improves the usability of existing guidelines

• Development of indicators will insure uptake of recommendations

• This approach can be used in any area of radiology where clinical pathways exist.