Oncology Clinical Service Line
System-wide Consensus Guidelines: **Treatment of Stage I Lung Cancer**

These guidelines apply to clinical interventions that have well-documented outcomes, but whose outcomes may not be desirable for all patients.

Reference #: SYS-PC-OCSL-CG-001

Origination Date: March 2015
Next Review Date: March 2018
Effective Date: March 2015

Approval Date: March 2015
Approved By: Allina Health Quality Council

**System-wide Ownership Group:** Allina Health Lung Cancer Program Committee
**System-wide Information Resource:** Director of Clinical Programs

**SCOPE:**

<table>
<thead>
<tr>
<th>Sites, Facilities, Business Units</th>
<th>Departments, Divisions, Operational Areas</th>
<th>People applicable to</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allina Health- All Facilities</td>
<td>Thoracic Surgery Radiation Oncology Pulmonology Primary Care Cancer Care Coordinators</td>
<td>Physicians, Nurse Practitioners, Physician Assistants</td>
</tr>
</tbody>
</table>

Guidelines are not meant to replace clinical judgment or professional standards of care. Clinical judgment must take into consideration all the facts in each individual and particular case, including individual patient circumstances and patient preferences. They serve to inform clinical judgment, not act as a substitute for it. These guidelines were developed by a Review Organization. These guidelines may be disclosed only for the purposes of the Review Organization according to Minn. Statutes §145.64 and are subject to the limitations described at Minn. Statutes §145.65
GUIDELINES are not meant to replace clinical judgment or professional standards of care. Clinical judgment must take into consideration all the facts in each individual and particular case, including individual patient circumstances and patient preferences. They serve to inform clinical judgment, not act as a substitute for it. These guidelines were developed by a Review Organization. These guidelines may be disclosed only for the purposes of the Review Organization according to Minn. Statutes §145.64 and are subject to the limitations described at Minn. Statutes §145.65.

CLINICAL PRACTICE GUIDELINES:
Until further randomized prospective data matures, the Lung Program Committee endorses the current best practice recommendations put out by the American College of Chest Physicians (ACCP) (1) and the National Comprehensive Cancer Network (NCCN) (2) for the treatment of patients with stage I NSCLC. The treatment groups may be best divided into 3 categories:

1) Patients medically fit for surgical resection should have an operation to remove their cancer with systematic lymph node assessment. Lobectomy should be performed in most cases (Grade1B). Sublobar resection can be considered for small (<2cm) ground glass opacities, and in peripheral solid nodules <1cm (Grade 1C). Segmentectomy is favored over wedge resection when technically feasible for sublobar resection (Grade 2C). Minimally invasive approach should be used when possible. (Grade 2C). (1)

2) Patients who may tolerate operative intervention but not lobectomy due to decreased pulmonary function or comorbid disease should be first considered for sublobar resection over nonsurgical therapy (Grade 1B). Segmentectomy is favored over wedge resection when technically feasible (Category 2A). Minimally invasive approach should be used almost always (Grade 2C, Category 2A). Pathologic nodal evaluation should be considered if it has potential to change therapy (Category 2B). Referral to radiation oncology for consideration of stereotactic ablative radiotherapy (SABR) may be considered at the discretion of the treatment team or upon patient request. This is the high risk surgery group as defined by the treatment team. Effort should be made to present patients felt to be high risk at multidiscipline conference to gain consensus. (Category 2A) (1, 2)

3) Patients who are medically inoperable should be considered first for SABR (Category 2A). Pathologic nodal evaluation should be considered if it has potential to change therapy (Grade 2C; Category 2A). Patients with local recurrence after SABR can be considered for additional SABR treatment or other ablative therapies (radio-frequency, microwave, cryotherapy) (Category 2A). Effort should be made to present patients felt to be inoperable at multidiscipline conference to gain consensus (Category 2A). (1, 2)

For pulmonary risk stratification, the Lung Program Committee recommends complete pulmonary function tests (spirometry and diffusion) on every patient undergoing major lung resection for treatment. Liberal use of exercise testing should be employed, when indicated, to further risk stratify patients and assist with treatment decision making.

* ACCP evidence “Grade” of recommendations notated parentheses; grading scheme available here.
† NCCN evidence “Category” of recommendations notated in parentheses; grading scheme available here.
Referral to Medical Oncology should be made for all patients with Stage 1B disease and higher.

**SUPPORTING EVIDENCE:**
The standard of care treatment for early stage non-small cell lung cancer (NSCLC) in low to moderate risk patients is lobectomy with systematic lymph node assessment (3). Recent studies have revisited the role of sublobar resection in this patient group with promising results, but further investigation is needed (4-6).

The identification and treatment of the inoperable or high-risk patient is more challenging. In years past, treatment options for medically inoperable patients were less efficacious. Conventional external beam radiation was associated with poor survival and significant morbidity (7-11). Sublobar resection for this high risk group offered the only viable treatment, but may be associated with significant risk. The emergence of SABR and radiofrequency ablation (RFA) techniques offer low risk treatment modalities for this group of patients.

Studies comparing sublobar resection, SABR, and RFA show mixed results. Most of the studies are limited by small sample size, retrospective reviews, and single institution accrual. Prospective trials are currently ongoing. Perhaps the most anticipated is ACOSOG Z4099, a phase III study comparing SABR with sublobar resection in high-risk surgery patients (12). This study has accrued and we are awaiting maturity of the data. Many questions remain including the value of lymph node evaluation, surveillance after any type of local therapy, and within the sublobar surgery group: is segmentectomy superior to wedge resection?

The greatest challenge remains how to define high-risk and medically inoperable patients with early stage lung cancer. Regardless of the outcome of any one trial, there will remain great debate on how to best classify this group of patients.

**DEFINITIONS:** NA

**SPECIAL ENTITIES:** NA

**FORMS:** NA
**ALGORITHM:** Stage I Lung Cancer (adapted from (2))

**ADDENDA:**
- Stage I Lung Cancer Literature Search PICO statement
- Compliance Plan for Treatment of Stage I Lung Cancer

Alternate Search Terms: NA

Related Guidelines/Documents

<table>
<thead>
<tr>
<th>Name</th>
<th>Content ID</th>
<th>Business Unit where Originated</th>
</tr>
</thead>
<tbody>
<tr>
<td>NA</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Guidelines are not meant to replace clinical judgment or professional standards of care. Clinical judgment must take into consideration all the facts in each individual and particular case, including individual patient circumstances and patient preferences. They serve to inform clinical judgment, not act as a substitute for it. These guidelines were developed by a Review Organization. These guidelines may be disclosed only for the purposes of the Review Organization according to Minn. Statutes §145.64 and are subject to the limitations described at Minn. Statutes §145.65*
REFERENCES:


Guidelines are not meant to replace clinical judgment or professional standards of care. Clinical judgment must take into consideration all the facts in each individual and particular case, including individual patient circumstances and patient preferences. They serve to inform clinical judgment, not act as a substitute for it. These guidelines were developed by a Review Organization. These guidelines may be disclosed only for the purposes of the Review Organization according to Minn. Statutes §145.64 and are subject to the limitations described at Minn. Statutes §145.65