

# Brazilian Society of Surgical Oncology (BSSO) considerations on oncological thoracic surgery during the COVID-19 pandemic

Considerações da Sociedade Brasileira de Cirurgia Oncológica (SBCO) sobre cirurgia torácica oncológica durante a pandemia de COVID-19

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## ABSTRACT

This proposal aims to serve as a tool and assist surgeons in the treatment of thoracic neoplasms during COVID-19 pandemic. It is based on the literature review published so far, in the opinion of individuals specialized in the field of thoracic oncology and not necessarily on evidence-based instructions. We recognize that management strategies are dynamic and must be determined individually, depending on the equipment and tools available for cancer treatment in each institution. In addition, its application will vary according to the severity of COVID-19 in each region.

**Keywords:** SARS virus; Severe acute respiratory syndrome; Thoracic, Surgery; Surgical oncology.

## RESUMO

Esta proposta tem como objetivo servir de ferramenta e auxiliar cirurgiões no tratamento de neoplasias torácicas durante a pandemia de COVID-19. Baseia-se em revisão de literatura publicada até o momento, na opinião de indivíduos especializados no campo da oncologia torácica e não necessariamente em instruções baseadas em evidências. Reconhecemos que as estratégias de gestão são dinâmicas e devem ser determinadas individualmente, dependendo dos equipamentos e ferramentas disponíveis para o tratamento do câncer em cada instituição. Além disso, sua aplicação variará de acordo com a gravidade do COVID-19 em cada região.

**Descritores:** Vírus SARS; Síndrome respiratória aguda grave; Cirurgia torácica; Oncologia cirúrgica.

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## GENERAL ORIENTATION:

At all levels of thoracic cancer care, the surgeon and patient should be discussed on a case-by-case basis, there is a risk in both decisions, so the definition must be shared with the patient.

### Possible hospital scenarios found:

1. Oncology hospital free of COVID-19;
2. General hospital with elective thoracic oncology surgery with physical separation Oncology/COVID-19 (for example, separate floors);
3. Oncological hospital with the presence of COVID-19, but with physical separation;
4. Oncological hospital with the presence of COVID-19 without adequate physical separation;
5. General hospital with elective thoracic oncology surgery without adequate physical separation from Oncology/COVID-19.

## SERVICE LEVELS IN ONCOLOGICAL THORACIC SURGERY:

### 1) Level 0: Oncology thoracic surgery clinic:

- Restrict outpatient consultations to new patients during cancer diagnosis and treatment;
- The number of professionals involved must be restricted to the minimum necessary for attendance;
- Restrict accompanying family members to one person;
- Postpone routine consultations for returning and asymptomatic patients;
- Postpone laboratory and imaging tests for asymptomatic patients;
- Consider "telemedicine" and enter the considerations in the medical records;
- Explain calmly to the patient who wants to operate on the risks of operating during a pandemic;
- Apply an appropriate consent form for COVID-19 (Informed Consent Form (ICF) of BSSO);
- Use of N95 masks during care for suspected and confirmed patients, surgical mask for patients with chemotherapy;

- Question all patients about recent contact with confirmed COVID-19 people and about symptoms suggestive of COVID-19;
- To advise on the importance of social isolation, especially in the 14 days before the scheduled date for the surgery;
- Provide guidance on protective hygiene issues and reduction of risk factors for postoperative complications (e.g., smoking cessation).

### 2) Level 1: Cases with surgical priority without the possibility of waiting:

- Solid or predominantly solid lung cancer (>50%) or presumed lung cancer >2cm, negative mediastinal clinical staging;
- Nodule smaller than 2cm and highly suspicious in patients with associated risk factors for lung cancer;
- Lung cancer smaller than 2cm confirmed with biopsy;
- Lung cancer with compromised mediastinum;
- Lung cancer after neoadjuvant chemotherapy;
- Atypical or central carcinoid tumors of any degree with the presence of hemoptysis and/or obstructive pneumonia;
- Tumors of the chest wall larger than 3cm or of any symptomatic size - evaluate the histological type, in cases of high-grade or undifferentiated tumors, they must be operated regardless of size and/or symptoms;
- Staging to start treatment (mediastinoscopy, diagnostic VATS for pleural dissemination);
- Symptomatic mediastinal tumors of any size and asymptomatic over 3cm;
- Pulmonary metastases: single greater than 2cm or more than two nodules regardless of size;
- Any number of metastases and any size of melanoma, sarcoma and/or other tumors of undifferentiated histology, high grade or aggressive behavior;
- Patients enrolled in therapeutic clinical trials.

### 3) Level 2: Cases that can be evaluated to wait (each surgeon and patient has the option of opting for surgery at that time):

- Ground glass nodules with component <50% solid;
- Nodule less than 2cm with indeterminate appearance, with no clear risk or tomographic factors that may suggest neoplasia;
- Low-grade carcinoid tumors without hemoptysis or obstructive pneumonia;
- Thymoma less than 3cm;

- Chest wall tumor less than 3cm, asymptomatic and low-grade and well- differentiated histology;
- Pulmonary metastasis: a nodule smaller than 2cm - unless it is clinically necessary to assess therapeutic or diagnostic indications;
- Patients who are unlikely to need prolonged ICU and mechanical ventilation;
- Tracheal resection (except aggressive histology that is not causing obstruction greater than 50%).

#### 4) Alternative approaches to consider:

- Ablative Stereotactic Radiotherapy (SABR);
- Ablation (for example, cryotherapy and radiofrequency ablation);
- Stent for neoplastic obstruction and treatment with chemotherapy and radiotherapy;
- Debulking (endobronchial tumor) only in circumstances where alternative therapy is not an option due to the increased risk of aerosolization (e.g., stridor after obstructive pneumonia not responsive to antibiotics);
- Non-surgical staging (image, biopsy of interventional radiology);
- Rescue surgery in patients after neoadjuvancy with failure of local control.

#### 5) Cases that need to be done as soon as possible:

- Infection associated with tumors, but without signs of sepsis (for example, debulking for postobstructive pneumonia);
- Treatment of surgical complications (hemothorax, empyema and infected mesh)- in hemodynamically stable patients;
- Central tumors with hemoptysis;

#### 6) RECOMMENDED alternative treatment approaches:

- Transfer patient to the oncology hospital not COVID-19;
- If you are eligible for adjuvant therapy, give neoadjuvant therapy;
- Ablative Stereotactic Radiotherapy (SABR);
- Ablation (for example, cryotherapy and radiofrequency ablation).

## CONCLUSION

The ideal would be to centralize the oncological cases in hospitals that are qualified and with trained staff, preferably in Hospitals Free of COVID-19 or hospitals with areas with evident physical separation (different floors for example).

Avoid proximity of patients in the postoperative period to suspected and/or confirmed patients to avoid nosocomial infection by COVID-19.

Evaluate the logistics of ICU beds, infirmary and apartment to decrease the chance of contact between contaminated and non-contaminated patients.

In Brazil, there are still legal implications with the risk of penalizing managers according to Law No. 12,732/12 (in force since 05/23/2013), which established that the first cancer treatment in SUS (Brazilian Public Health System) must start within a maximum period of 60 days from the signature of the pathological report or in a shorter period, therefore each case must be assessed individually.

When evaluating any surgeries to be postponed, the occupancy rates of the inpatient units and especially the ICU occupancy rate should be considered. Operating a high-risk patient without an ICU backup may not be feasible.

Depending on the availability of each institution, consider testing for COVID-19, even in asymptomatic patients, to avoid operating on patients during the incubation period, and who may manifest the disease in the postoperative period.

All cases, as long as available, should be discussed in a multidisciplinary team (Tumor Board).

Stressing once again that all cases must be evaluated between the surgeon and the patient, so that they can define the best conduct, respecting the patient's opinion and decision. At all suggested levels of conduct, the surgery is the decision of the surgeon and the patient.

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