

# Pulmonary Nodules, Surgical Indication and Procedure Optimization

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## Abstract

Technical advance of computerized tomography creates a new problem. A lot of adults (70-90%) show wide spread of pulmonary nodules. The therapeutic management development needs great progresses. This article provides new insights into this phenomenon.

**Keywords:** *Pulmonary Nodules; Drug Treatment; Surgery*

## Introduction

Technical advance of computerized tomography creates a new problem. A lot of adults (70-90%) show wide spread of pulmonary nodules. The therapeutic management development needs great progresses. There is a potential risk for human health by harmful consequences of pulmonary nodules. Further work is needed.

## Methods

Many different therapeutic options can be practice for this clinical evidence. Surgery should be one of main therapeutic selections in the clinic. However, a lot of breakthroughs needs to be done. Surgical indication and procedure optimization should be focused.

Diagnostics (size, morphology, occurrence interval, growth rate and others)

Procedure (technology, schedules, costs and others)

Patient's condition (age, physical condition, financial condition, long-term prognosis and co-morbidity)

Technology (small trauma, computer-aid, robots, regional or others)

## Discusses

Technical innovation for surgical procedure is a paramount issue in the clinic. Current norm of surgical procedure is unsuitable for most people. At present, most of pulmonary nodules are not fatal. According to our point of view, diagnostic and pathological study is more than surgery alone. It is proposed that this evidence is not 100% associated with malignancy. Human infection, mental health problems and underlying diseases could also be possible [1]. It can be practiced with drugs [2-4], traditional medicine [5-8] and per-

sonalized medicine may be useful [9-10]. At present, what kind of patients is suitable to surgery (surgical indication) is still a mystery [11-15].

## Possible Pathogenesis

This is a new scenario for human pathology. To counteract this pathogenesis, related pathways are proposed;

## Potential related pathogenesis and human reaction

Human viral or bacterial infection (human reaction to infection and immune system changes

Underlying disease (hypertension, diabetes or obesity) These kinds of human pathogenesis may relate with disease progresses and therapeutic outcomes

Abnormal immune status in patients (human immune systems are wide spread and can cause a lot of human pathological or physiological changes

Human mental disorders (a number of different mental diseases can cause changes in human organs). Data statistics and computation can determine disease progress

Food or drug toxicity (food or drug abuses can change human physiology and organ status)

In order to clarify these pathogenesis, drug targets and development should be implemented. Facing this new situation, new animal models will be created.

## Future Direction

Future study for surgical indication and procedure optimization should be emphasized to promote medical science progression about pulmonary nodes. We hope that medical doctors can quickly

determine the therapeutic option when a patient needs further treatment.

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