

**Lung Cancer Screening with low-dose CT: Definition of positive, indeterminate, and negative screen results. A Nodule Management Recommendation from the European Society of Thoracic Imaging**

**ELECTRONIC SUPPLEMENTARY MATERIAL**



### Patient and examination data

Name: \_\_\_\_\_

First name: \_\_\_\_\_

Date of birth: \_\_\_\_\_

Date of previous CT: \_\_\_\_\_

Date of current CT: \_\_\_\_\_

DLP (mGy.cm) : \_\_\_\_\_

CTDI vol (mGy): \_\_\_\_\_

### POSITIVE SCREENING RESULT

- Solid nodule** with volume  $\geq 500 \text{ mm}^3$  (diameter  $\geq 10 \text{ mm}$ )
- Solid nodule** with volume  $\geq 250$  to  $< 500 \text{ mm}^3$  (diameter  $\geq 8$  to  $< 10 \text{ mm}$ ) and **suspicious morphology (\*)**
- Subsolid pure ground glass nodule**  $\geq 3 \text{ cm}$  in average or effective diameter
- Subsolid nodule** with solid component volume  $\geq 500 \text{ mm}^3$  ( $\geq 10 \text{ mm}$ ) OR **ground glass component**  $> 3 \text{ cm}$  → do FU LDCT after 1 month
  - No regression: referral MDT
  - Regression: FU LDCT after 12 months
- Solid and subsolid nodules at follow-up with substantial growth**
  - If volumetry is possible: VDT  $< 250$  days at 3 months, VDT  $< 400$  days at 6 months and VDT  $< 500$  days at  $\geq 12$  months
  - If volumetry fails: visually verifiable increase in size of  $> 1.5 \text{ mm}$  over a time interval of maximally 1 year, or substantial change in morphology
- Truly new nodules with volume  $\geq 30 \text{ mm}^3$  ( $\geq 4 \text{ mm}$ ) with growth after 3 months follow-up
- Slow-growing nodules with increase by more than 5 mm from baseline: refer to MDT

\* Suspicious morphology: spiculation, pleural indentation, cystic component, bubble-like lucencies, concave sign, bronchus cut-off

## INDETERMINATE SCREENING RESULT

- Solid nodule** volume  $\geq 100 \text{ mm}^3$  and  $< 250 \text{ mm}^3$  (diameter  $\geq 6 \text{ mm}$  to  $< 8 \text{ mm}$ )
  - No suspicious morphology: FU LDCT after 6 months
  - Suspicious morphology: FU LDCT after 3 months
- Solid nodule** volume  $\geq 250 \text{ mm}^3$  and  $< 500 \text{ mm}^3$  (diameter  $\geq 8 \text{ mm}$  to  $< 10 \text{ mm}$ )
  - No suspicious morphology: FU LDCT after 3 months
  - Suspicious morphology: becomes positive screen result
- Part-solid nodule** with solid component volume  $< 100 \text{ mm}^3$  ( $< 6 \text{ mm}$ ) and total size  $< 3 \text{ cm}$  AND suspicious morphology (\*)
- Part-solid nodule** with solid component volume  $\geq 100 \text{ mm}^3$  and  $< 250 \text{ mm}^3$  (diameter  $\geq 6 \text{ mm}$  to  $< 8 \text{ mm}$ )
  - No suspicious morphology: FU LDCT after 6 months
  - Suspicious morphology: FU LDCT after 3 months
- Part-solid nodule** with solid component volume  $\geq 250 \text{ mm}^3$  and  $< 500 \text{ mm}^3$ 
  - No suspicious morphology: FU LDCT after 3 months
  - Suspicious morphology: becomes positive screen result
- Focal consolidation of **infectious appearance**: FU 3 months post antibiotics
- Bulging or obstructing **endoluminal lesions** (other than mucous) in subsegmental or smaller bronchi: FU LDCT after 6 months
- Focal endotracheal and proximal endobronchial** abnormalities (other than mucous): FU LDCT after 3 months

\* Suspicious morphology: spiculation, pleural indentation, cystic component, bubble-like lucencies, concave sign, bronchus cut-off

## NEGATIVE SCREENING RESULT

- No nodule
- Solid nodules** with volume  $< 100 \text{ mm}^3$  (diameter  $< 6 \text{ mm}$ )
- Subsolid **pure ground glass** nodule  $< 3 \text{ cm}$
- Subsolid **part-solid nodule** with **solid component**  $< 6 \text{ mm}$  and **total size**  $< 3 \text{ cm}$  (without morphological criteria suggesting malignancy)
- Nodule with **typically benign nodule characteristics** (intranodular fat or intrapulmonary lymph node criteria\*)

\* Criteria for intrapulmonary lymph node: typical morphology with smooth margins, oval, lentiform or triangular shape,  $< 1 \text{ cm}$ , distance to pleura  $< 1 \text{ cm}$ , under the carina