

# Verification of feasibility in exceedingly-early-oral-intake after lung resection

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## Background

In our respiratory surgery department, if the state of the patient is good, exceedingly-early-mobilization and food-intake are implemented 4 hours after operation (Pic1 Pic2). Since food-intake is generally started on the next day after operation, pulmonary complications such as aspiration-related pneumonia need to be considered in the case of exceedingly-early-oral-intake.

## Objective and Methods

To verify the feasibility of exceedingly-early-oral-intake, the difference in the swallowing function between the operative day and postoperative day 1 (POD1) was assessed.

Twelve consecutive patients were enrolled that were targeted for exceedingly-early-mobilization and oral-intake after lung resection in our hospital from September to November 2015. The followings were assessed and recorded on the operation day and POD1: Food Intake LEVEL Scale of Fujishima (Table1 FILS), a repetitive saliva swallowing test (Pic3 RSST), a modified water swallow test (Pic4 MWST), a food test (Pic5 FT), and Dysphasia Severity Scale (Table2 DSS). The mean value of RSST and the median values of other examinations on the operative day were compared with those of POD1.

## Results and Conclusions

The average age of patients was 60.5 years old. The mean operative time was 2 hours 8 minutes. The swallow assessments of the operation day were 5.42 time (RSST), MWST5, FT5, FILS Level9, DSS Level6. Those of POD1 were 5.42 time (RSST), MWST5, FT5, FILS Level10, DSS Level7.

There was no significant difference in the swallow assessments between the operation day and POD1.

As such, it was suggested that the start of oral-intake on the operation day was feasible. We will continue this protocol and verify the results of this study through assessment of an increased number of future cases.

Pic1 swallowing test after operation.

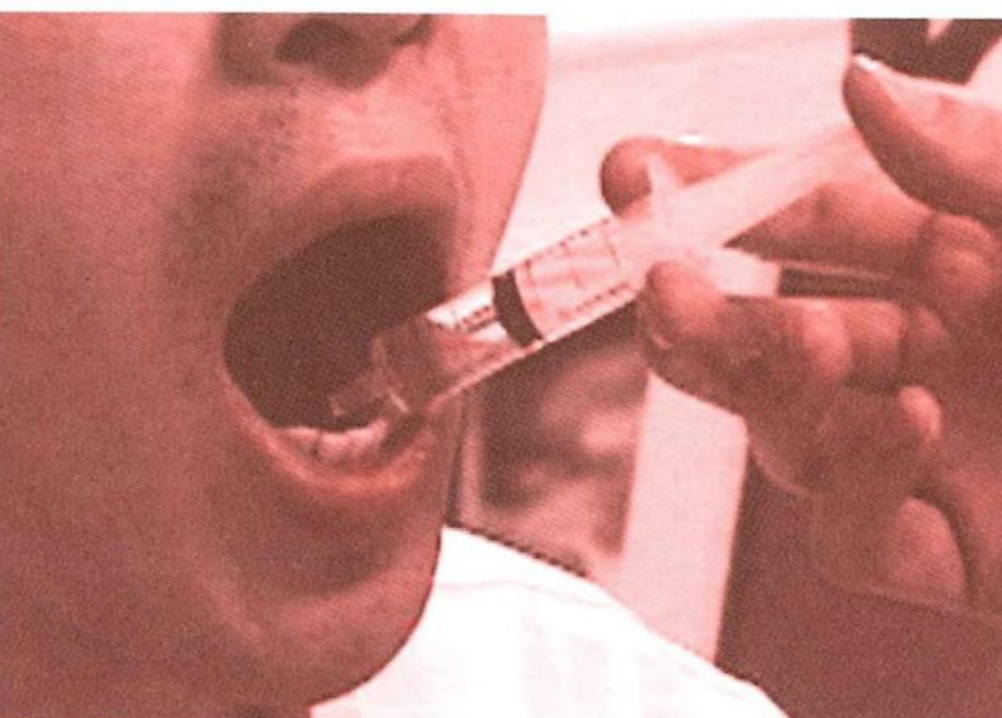


Pic2 early mobilization after operation.



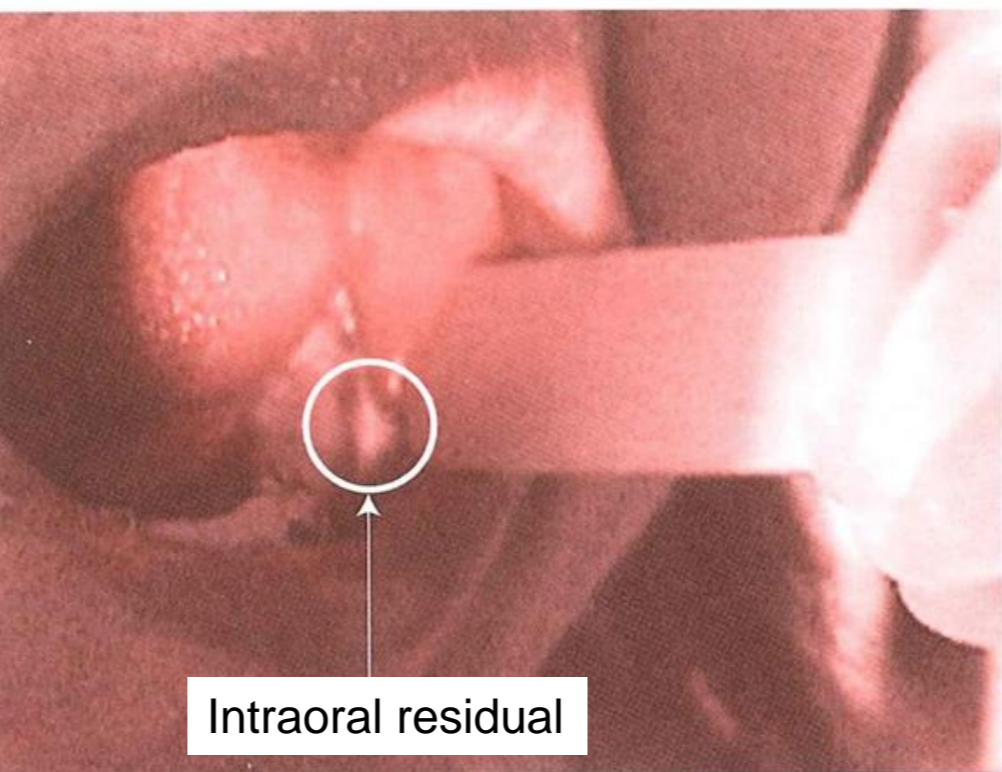
Table1 FILS

- 1: No swallowing training is performed except for oral care
- 2: Swallowing training not using food is performed
- 3: Swallowing training using a small quantity of food is performed
- 4: Easy-to-swallow food less than the quantity of a meal (enjoyment level) is ingested orally
- 5: Easy-to-swallow food is orally ingested in one to two meals, but alternative nutrition is also given
- 6: The patient is supported primarily by ingestion of easy-to-swallow food in three meals, but alternative nutrition is used as a complement
- 7: Easy-to-swallow food is orally ingested in three meals. No alternative nutrition is given.
- 8: The patient eats three meals by excluding food that is particularly difficult to swallow
- 9: There is no dietary restriction, and the patient ingests three meals orally, but medical considerations are given.
- 10: There is no dietary restriction, and the patient ingests three meals orally (normal).



Pic4 MWST

- To swallow the cold water 3ml.
- 1: No swallow
  - 2: Swallow there, choking there, Respiratory change
  - 3: Swallow there, choking there, wet hoarseness there
  - 4: Swallow there, no choking, no wet hoarseness
  - 5: add 4 and add swallowing possible twice within 30 seconds



Pic5 FT

- To eating a teaspoon of pudding.
- 1: No swallow
  - 2: Swallow there, choking there, Respiratory change
  - 3: Swallow there, choking there, wet hoarseness there Intraoral residual.
  - 4: Swallow there, no choking, no wet hoarseness, no Intraoral residual
  - 5: add 4 and add swallowing possible twice within 30 seconds



Pic3 RSST

Instructed to perform a lot as long as the sky swallowing after wetting to moderate in the oral cavity can in 30 seconds. It is referred to as positive less than 3 times in 30 seconds.

Table2 DSS

- 1: Aspiration of saliva
- 2: Aspiration of food
- 3: Aspiration of water
- 4: Aspiration is opportunity
- 5: Oral problem
- 6: Minor problem
- 7: Normal

Fig1 Average of each tests.

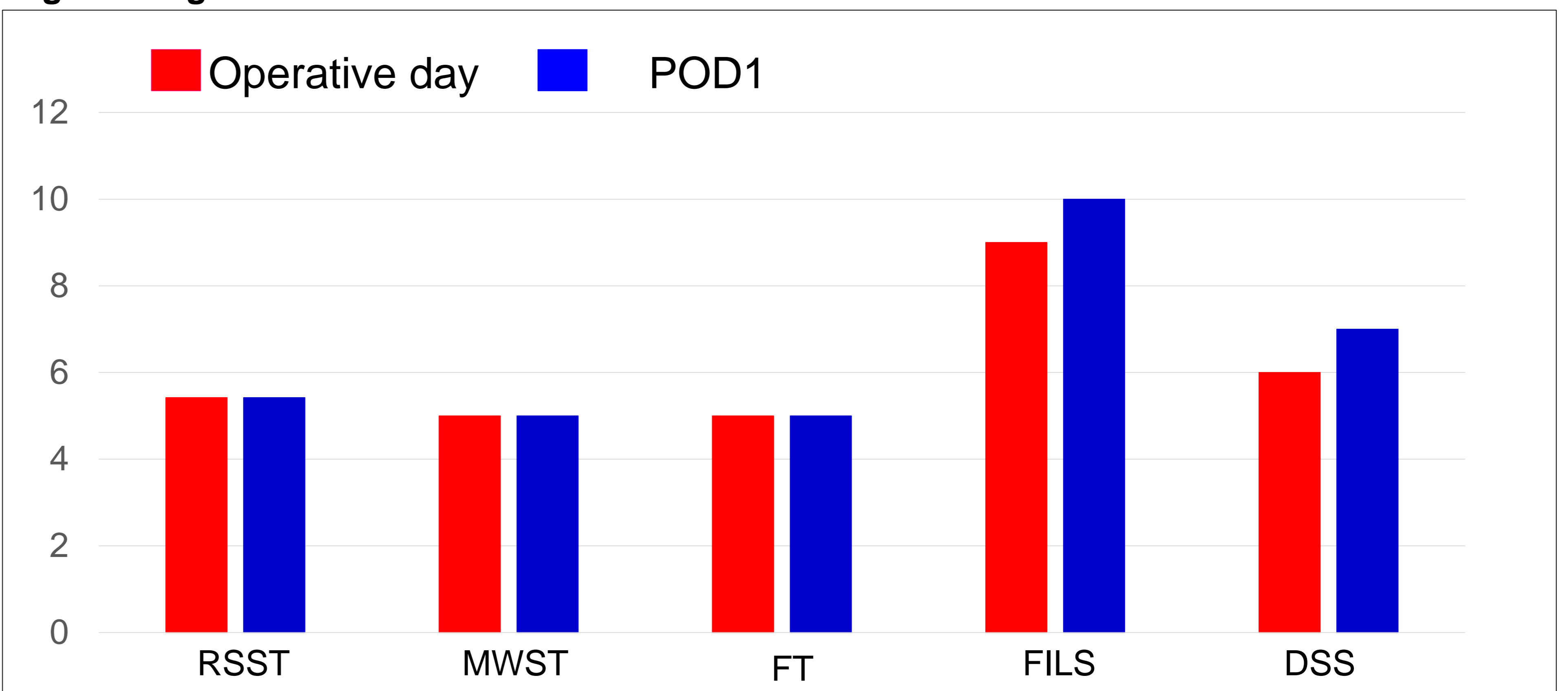


table3 Score or each case

	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6	Case 7	Case 8	Case 9	Case 10	Case 11	Case 12	Ave.
Age	50s	50s	70s	50s	10s	70s	50s	70s	50s	70s	70s	60s	60.5
RSST	7	5	4	7	6	7	5	5	6	5	7	1	5.42
MWST	5	5	5	5	5	3	5	5	5	5	5	3	5
FT	5	5	5	5	5	5	5	5	5	5	5	4	5
FILS	9	9	9	6	6	9	9	9	9	6	9	6	9
DSS	6	4	6	6	6	6	6	6	6	4	6	3	6
RSST	7	4	5	3	10	4	5	7	6	5	9	0	5.42
MWST	5	5	5	5	5	3	5	5	5	5	5	1	5
FT	5	5	5	5	5	5	5	5	5	5	5	1	5
FILS	10	10	10	9	10	9	10	10	10	10	4	4	10
DSS	7	7	7	6	7	6	7	7	7	7	7	2	7

Operative day

POD1