



## **A Retrospective Study of the Changes of the Pharyngeal Diameter in Dysphagic Patients with Stroke**

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## **Clinical Utility of Changes of Pharyngeal Width at Rest (JOSCYL width) in Dysphagic Patients with Stroke**

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## Disclosure

- \* Our researchers declare that
  - There are NO potential conflicts of interest.
  - There is NO financial support for this research.
  - This research has NOT been published elsewhere.

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## Dysphagia

- \* Commonly present during all phases of stroke
- \* Reported in 37 – 45% of patients in the 1<sup>st</sup> three days after stroke onset
- \* One of the disabling sequelae of stroke

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# Dysphagia Assessment Tools

## \* Lots of tests

### \* 3-oz test, Burke Dysphagia Screening Test(BDST), etc...

	3-oz water swallow test (DePippo et al., 1992) USA	BDST (DePippo et al., 1994) USA	Timed test (Hinds & Wiles, 1998) UK
Sensitivity, %	76	—	100
Specificity, %	59	—	52

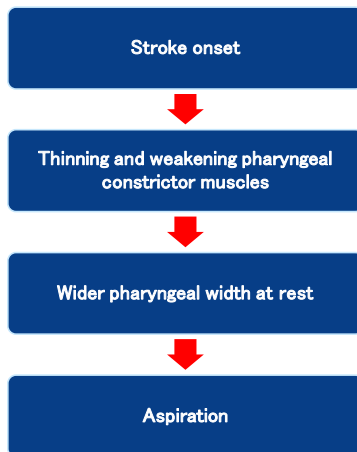
## \* VFSS (Video Fluoroscopic Swallow Study)

- \* One of the most reliable tests for dysphagia evaluation
- \* Limitation: difficult to apply to the patients with postural instability

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# Hypothesis & Purpose

## Hypothesis



## Purpose of our study

Easier & more accurate test tool about the chronological changes of dysphagic condition in stroke patients

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## Subjects & Methods

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## Subjects

- \* 38 stroke patients suffering from dysphagia
  - \* 1st assessment in acute stroke stage (~ 30 days after the onset of stroke)
  - \* 2nd assessment in subacute or chronic stage

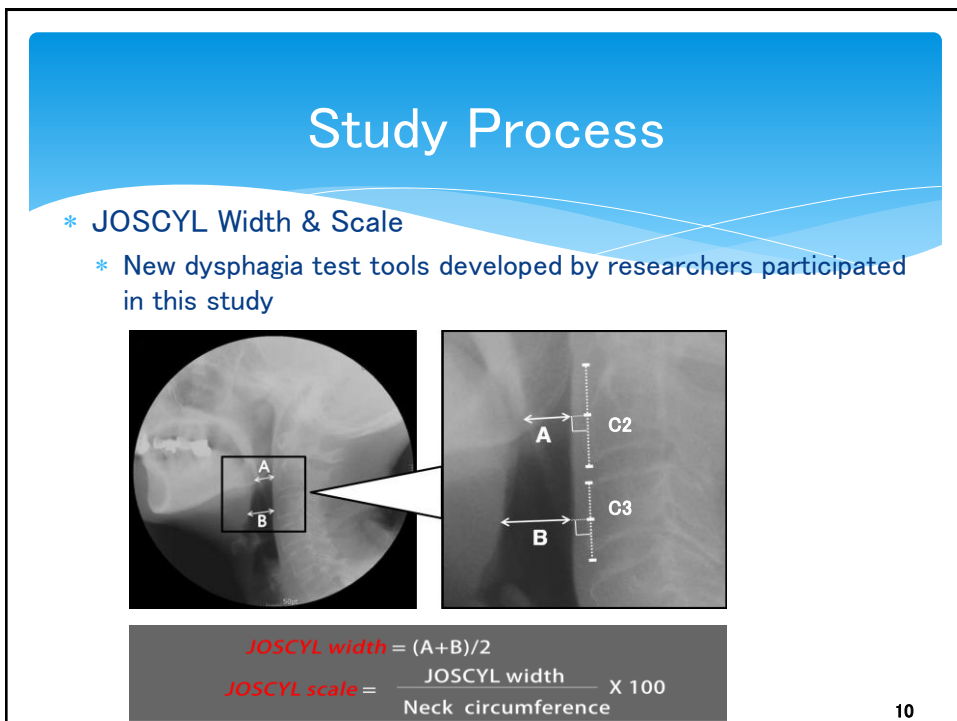
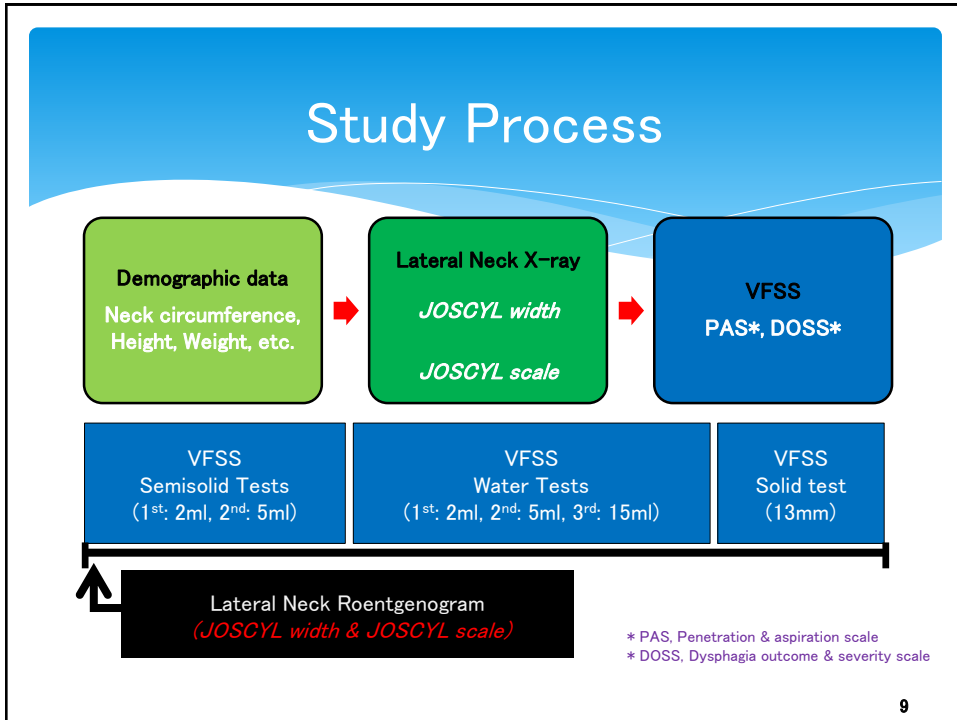
### Inclusion

- 1<sup>st</sup> stroke
- 1<sup>st</sup> dysphagic symptom in lifetime
- Alert mental status
- Participants who can keep sitting down during VFSS
- Subjects who gave the informed contents

### Exclusion

- History of surgery on head, neck or C-spine
- History of tracheostomy
- Oral or esophageal dysphagia confirmed by VFSS
- Sacral sore limiting sitting position

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## Statistics

- \* Serial values of JOSCYL width & scale, PAS, DOSS :  
Paired t-test
- \* Spearman correlation analysis between the difference values of JOSCYL width (scale) and the difference values of VFSS parameters (PAS, DOSS)

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## Results

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## Demographic & Clinical Characteristics

		Participants (n=38)
Age (years)		67.6 ± 13.1
Sex (male : female)		31 : 7
Height (cm)		165.3 ± 6.8
Weight (kg)		62.7 ± 8.4
Neck circumference (cm)		36.3 ± 2.5
Assessments (post-stroke days)	1 <sup>st</sup>	15.9 ± 7.5
	2 <sup>nd</sup>	134.2 ± 93.8

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## PAS & DOSS

### Initial & follow-up values of PAS & DOSS

	1 <sup>st</sup> VFSS	2 <sup>nd</sup> VFSS	Difference value ( $\Delta$ )	P value
PAS	6.37 ± 2.16	5.05 ± 2.72*	1.32 ± 2.83	*p<0.05
DOSS	3.39 ± 1.52	3.79 ± 1.56*	-0.39 ± 1.81	*p<0.05

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## JOSCYL Width & Scale

Changes between the serial values of JOSCYL width & scale

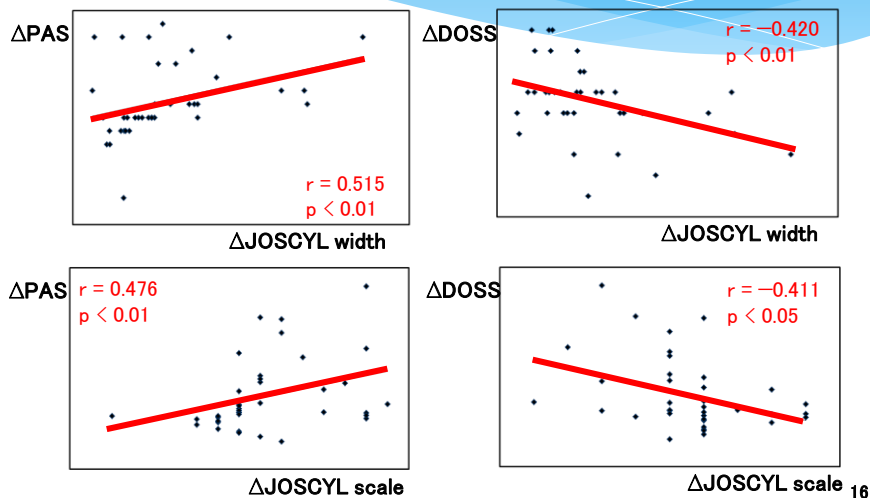
	1 <sup>st</sup>	2 <sup>nd</sup>	P value
JOSCYL width	19.2 ± 1.1	17.3 ± 1.1*	*p<0.01
JOSCYL scale	52.8 ± 2.9	47.5 ± 2.8*	*p<0.01

Correlation between difference values of JOSCYL width & scale and VFSS parameters

	ΔPAS (< 0.05)	ΔDOSS (< 0.05)
ΔJOSCYL width (< 0.01)	0.515 (< 0.01)	-0.420 (< 0.01)
ΔJOSCYL scale (<0.01)	0.476 (< 0.01)	-0.411 (< 0.05)

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## Correlation Coefficient



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## Conclusion

Difference values in JOSCYL width & scale well reflected the changing conditions at each dysphagic patient with stroke.

→ JOSCYL width & scale could be a useful tool to evaluate whether alleviation or aggravation of dysphagia occurred following stroke.

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## Thank you for listening!



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