

워싱턴개최, 제16차 세계산부인과학회  
심포지움 초청강연

자궁경부 평가에 있어서  
초음파의 역할

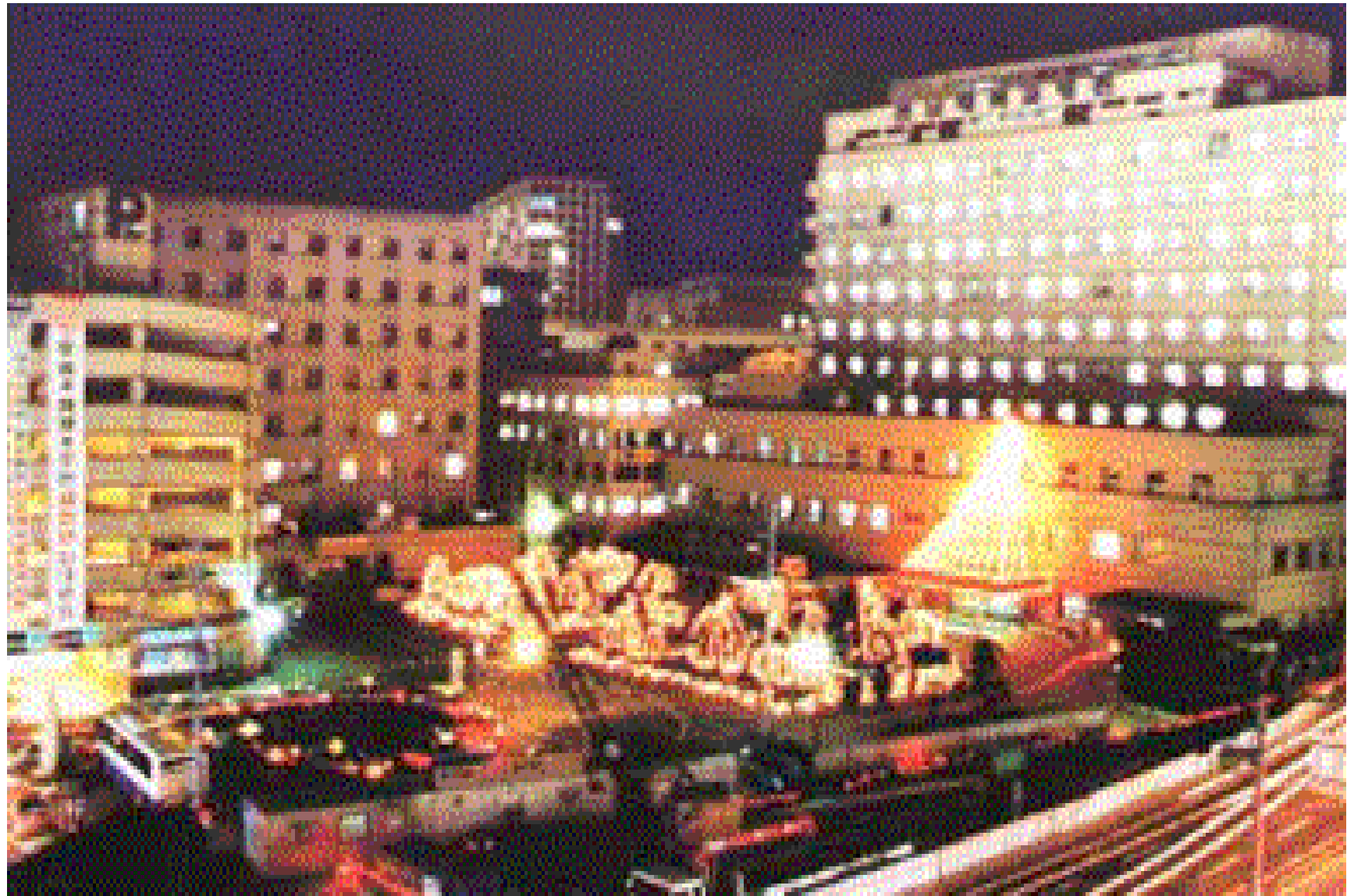
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송 태 복

# Role of Ultrasound in Cervical Assessment

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# Cervical Length (CL) Assessment

1. **Digital Examination** : very subjective

2. **Cervical Sonography**

**TAS** : CL altered by bladder filling

**TVS** : empty bladder

**TPS (TLS)**

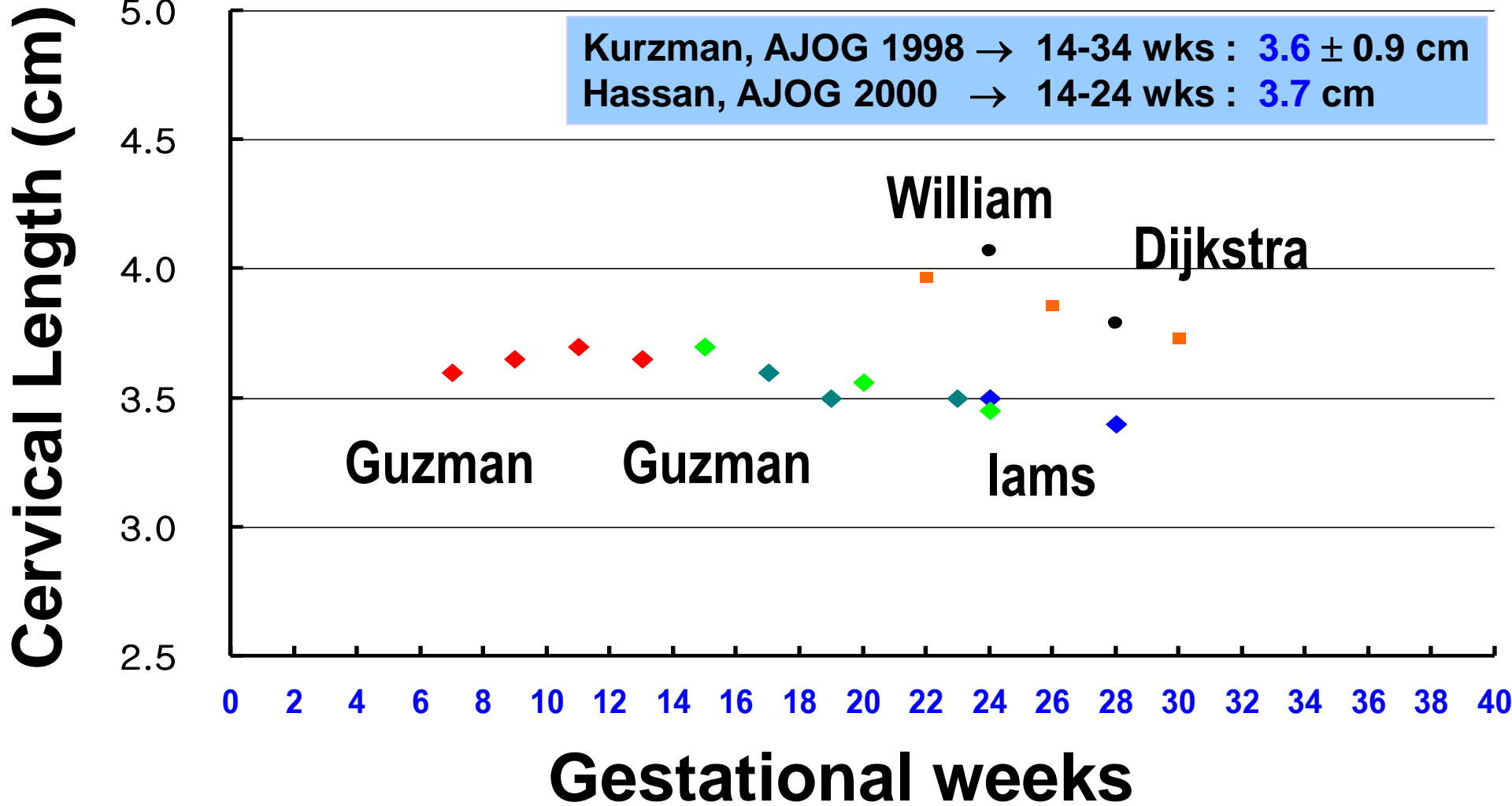
# Cervical Length Assessment

♣ **Non-pregnant uterus** ♣

	<u>Mean</u>	<u>(Range)</u>
<b>Digital</b>	<b>25 mm</b>	<b>(10-40)</b>
<b>TVS</b>	<b>38 mm</b>	<b>(20-62)</b>
<b>Ruler</b>	<b>38 mm</b>	<b>(25-51)</b>

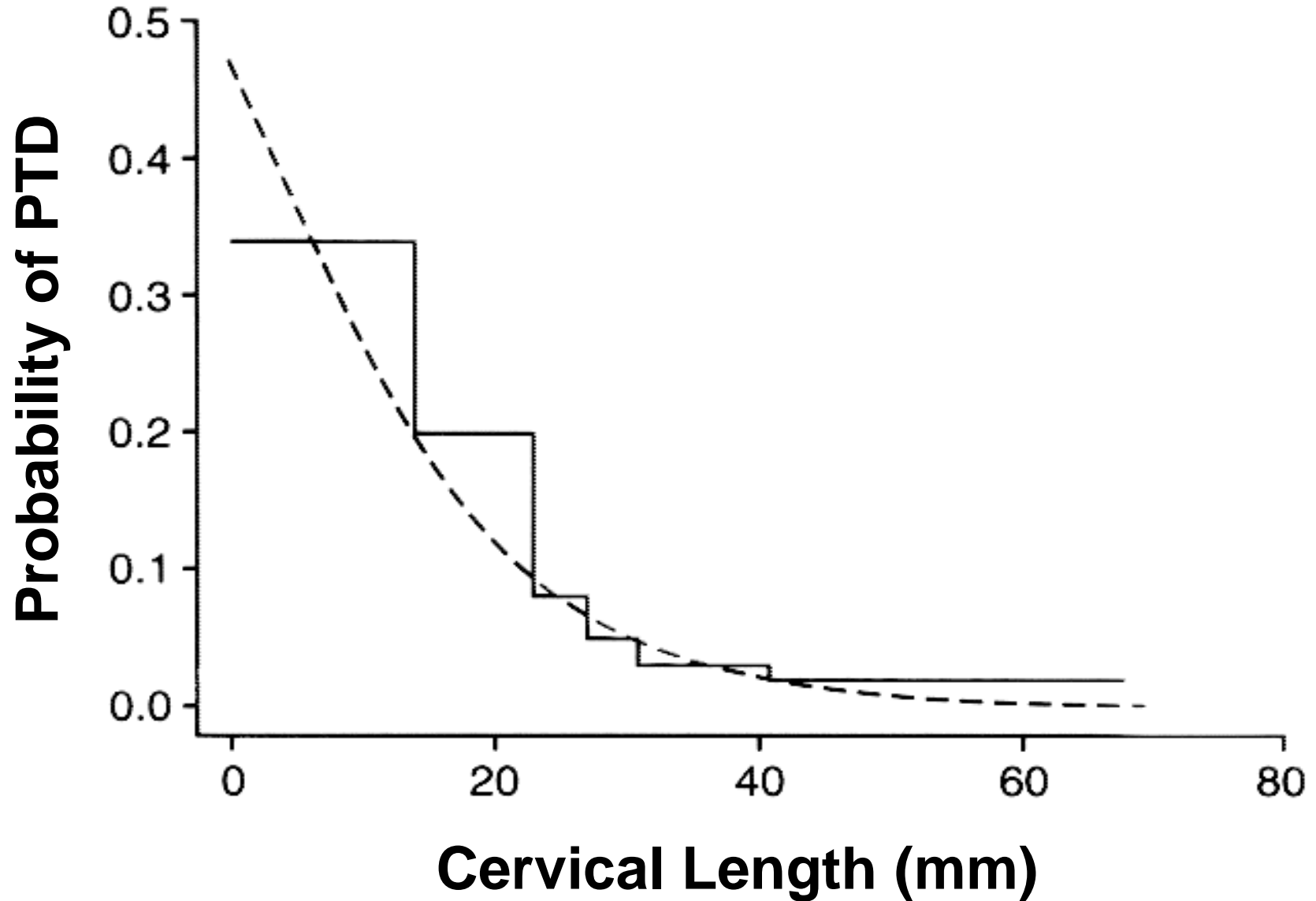
Jackson et al, OB&GY 1992;79:214

**Cervical Nomogram by TVS**  
**in**  
**Singleton Pregnancy**



# CL and Spontaneous Preterm Birth

Iams et al, NEJM 1996; 334: 567





# Prediction of Preterm Delivery (TVS)

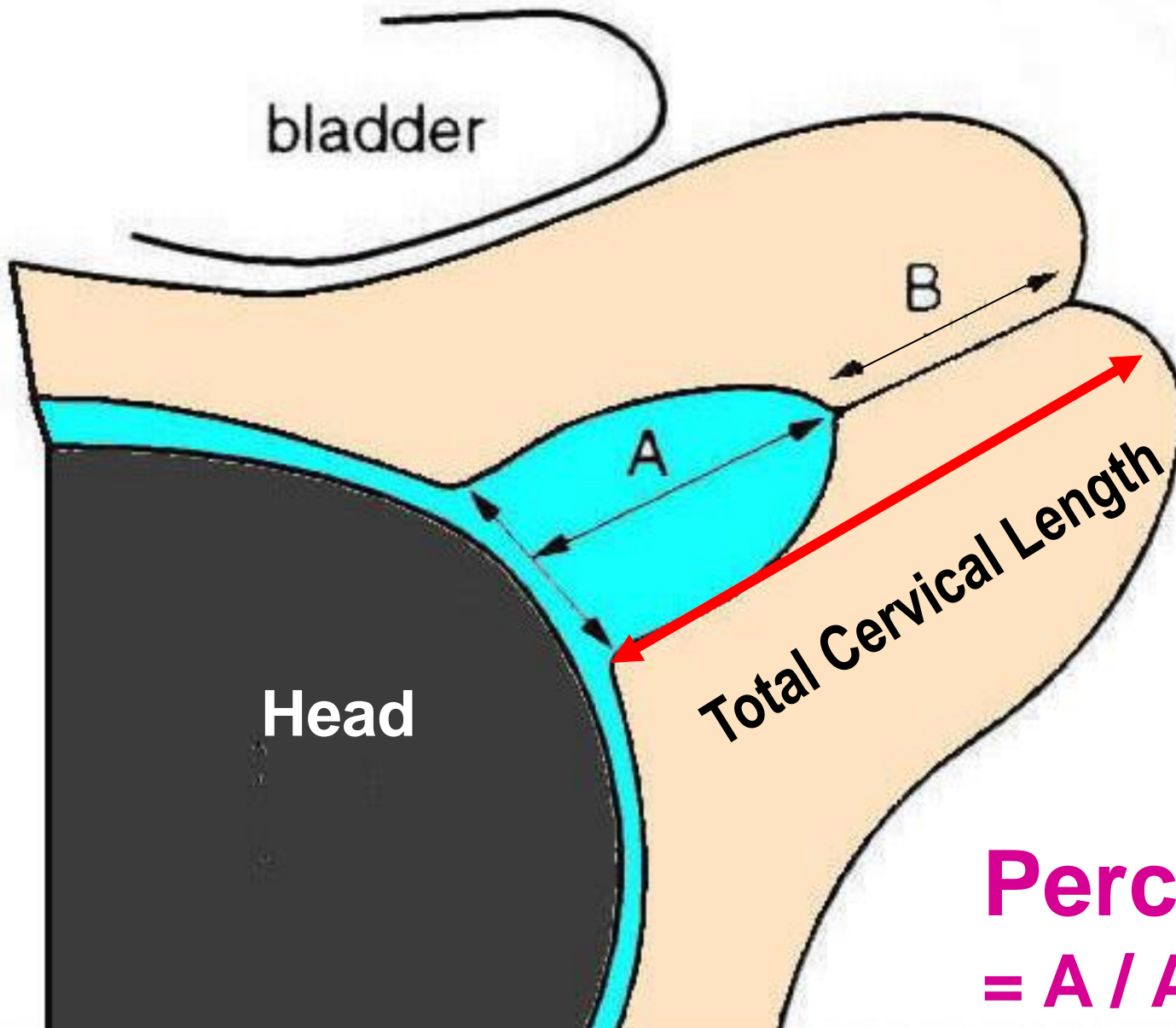
## ◆ Low-risk population

		<b>Cutoff</b>	<b>Weeks</b>	<b>PPV</b>	<b>PTD</b>
Iams	(1996)	20mm	24w	26%	<35w
Hassan	(2000)	15mm	14-24w	48%	≤32w
Anderson	(1990)	34mm	7-30w	35%	<37w

## ◆ High-risk population

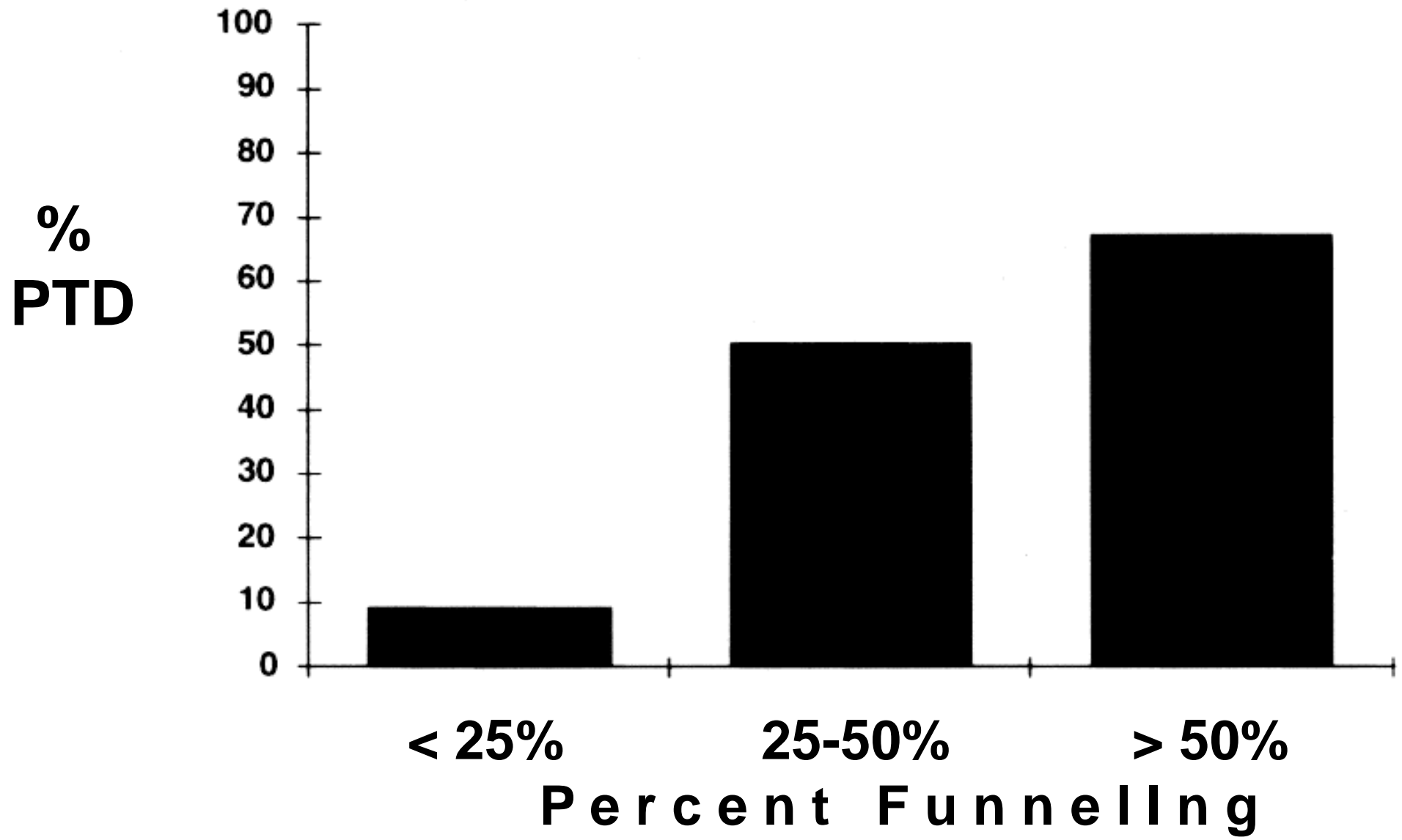
Berghella	(1997)	25mm	14-22w	45%	<35w
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# Funneling



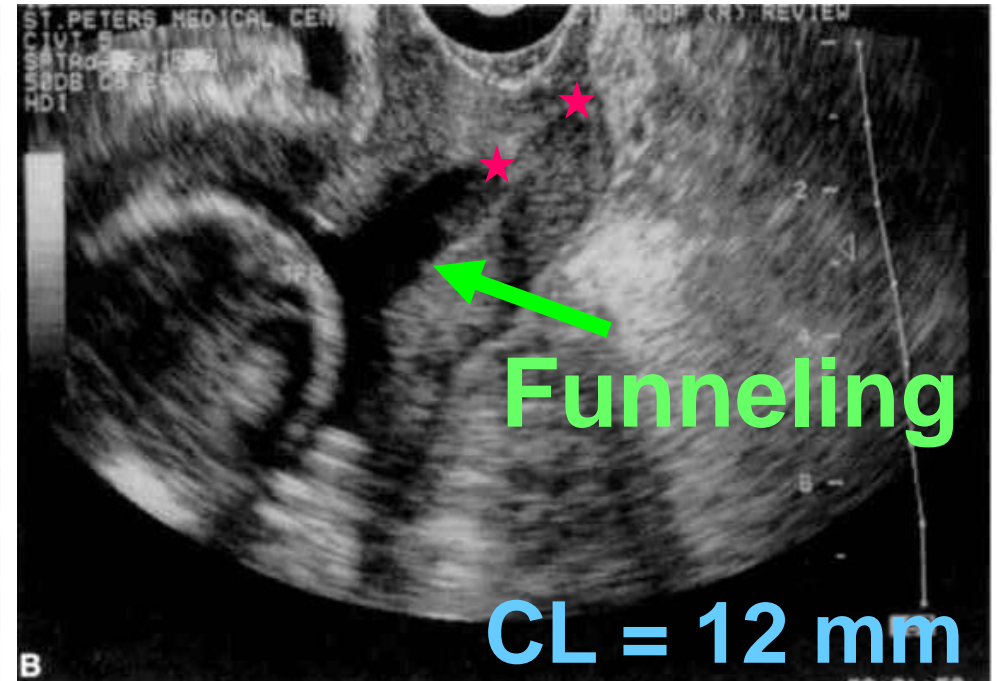
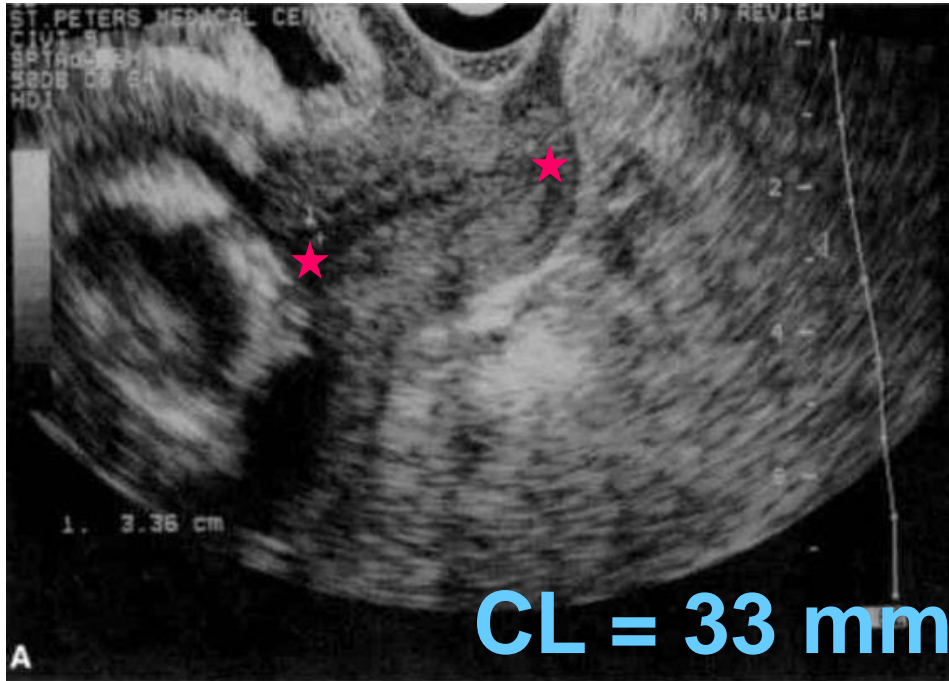
**Percent funneling**  
**=  $A / A+B$**

# Risk of PTD by Degree of Funneling (Berghella, 1997)



**Normal-appearing cervix at  
18 weeks' gestation**

**After Transfundal Pressure**



**By digital exam, closed and long cervix**

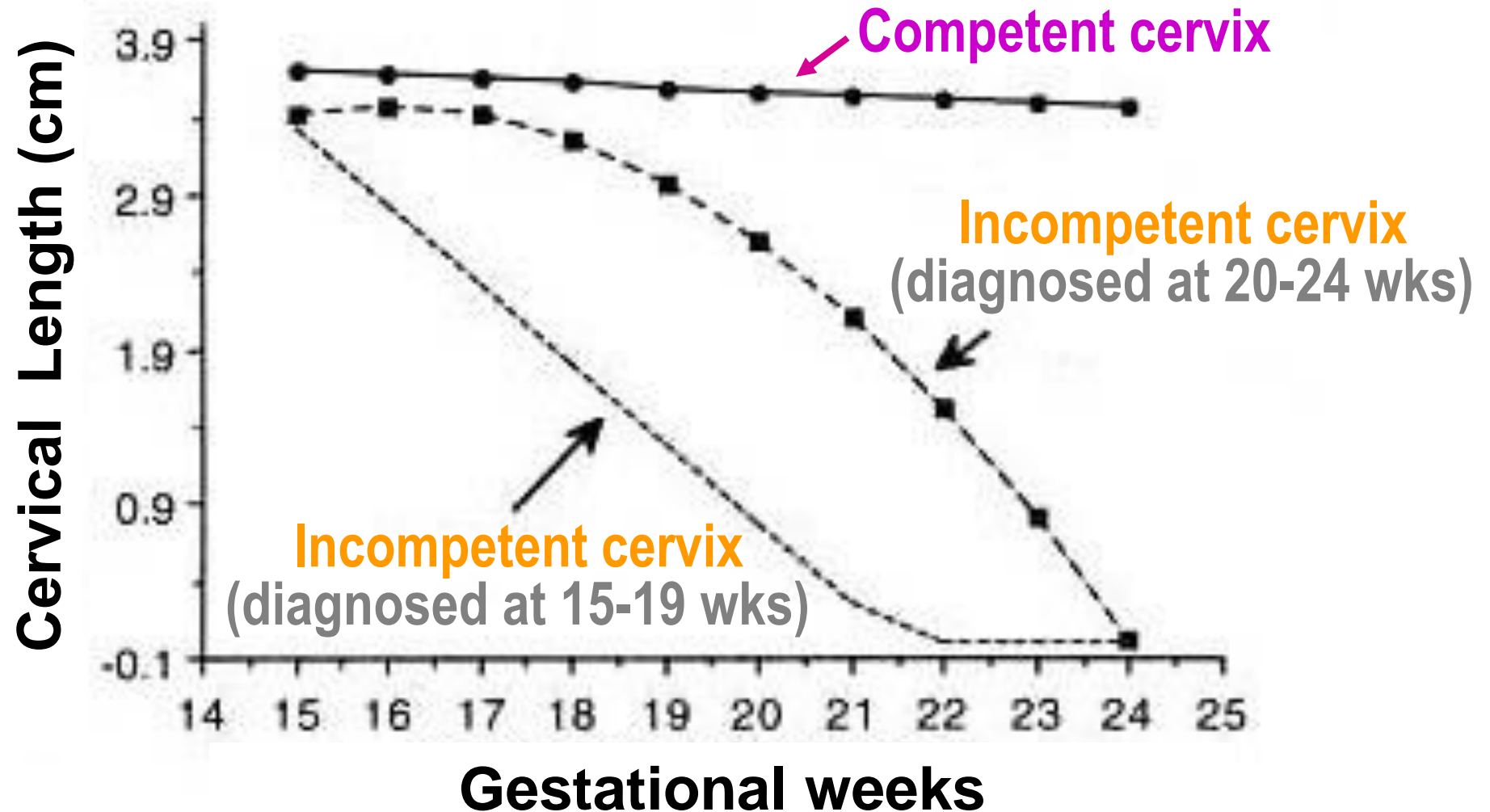
**→ A week later, the membranes were at the external os.**

**Funneling is probably the normal  
mechanism of effacement  
after 30 weeks of gestation**

**Funneling with a normal residual  
CL is of little import**

# Cervical Length (15-24 wks)

Guzman et al, OB&GY 1998;92;31



# US-indicated Cerclage

Guzman et al, US-OG 1998; 12:323

**(+) Risk factor for pregnancy loss**



**Serial TVS of cervix with transfundal pressure  
(15-24 weeks)**



**Progressive cervical shortening to  $\leq 20$  mm**



**Consider ultrasound-indicated cerclage**

# Elective vs. US-indicated Cerclage

Guzman et al, US-OG 1998; 12:323

<b>138 women at risk for pregnancy loss</b>		
	<b>Elective (81)</b>	<b>US-indicated (57)</b>
<b>Median GA</b>	<b>37w</b>	<b>37w</b>
<b>Early loss (&lt;25w)</b>	<b>9.9%</b>	<b>8.8%</b>
<b>PTD (&lt;37w)</b>	<b>35.8%</b>	<b>36.8%</b>



# Does Cerclage Prevent Prematurity?

Berghella et al, AJOG 1999;181:809

**TVS in high-risk pts for PTD at 14-24 wks**

**Cervical change: CL < 25 mm or Funneling > 25%**

1. **Negative** Cervical Change: PTD (<35w) → (8%)
2. **Positive** Cervical Change: PTD (<35w) → (37%)

↳ <63 patients>

{ 39 → Cerclage (+)  
24 → Cerclage (-)

: No difference in the rate of PTD

- TVS of cervix (14-24 wks): a good predictor of PTD
- But, cerclage may not prevent PTD

# Summary

- **TVS**
  - **a better predictor of PTD than traditional manual examination**
  - **correlated with risk of PTD in both low- & high-risk patients.**

- **Atypical or uncertain history of cervical incompetence**
  - frequent TVS examination,
  - looking for decreased CL and funneling.

# Conclusion

**Prospective, randomized, controlled studies are necessary before cerclage can become part of standard clinical practice.**

Thank you for attention.