

المؤتمر السنوي الدولي للجمعية الرمادية المصرية
INTERNATIONAL CONGRESS OF THE
EGYPTIAN OPHTHALMOLOGICAL SOCIETY
EOS 2023



DMEK Roll

Orientation techniques

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Cairo University



DMEK Technique

1. Donor tissue preparation
2. DMEK injectors (Graft loading)
3. Recipient preparation
4. Injection of DMEK roll in A.C.
5. DMEK graft orientation
6. DMEK graft unfolding and centration
7. Graft tamponade with Air or SF6 Gas



DMEK graft orientation

**UPSIDE
DOWN
GRAFT**



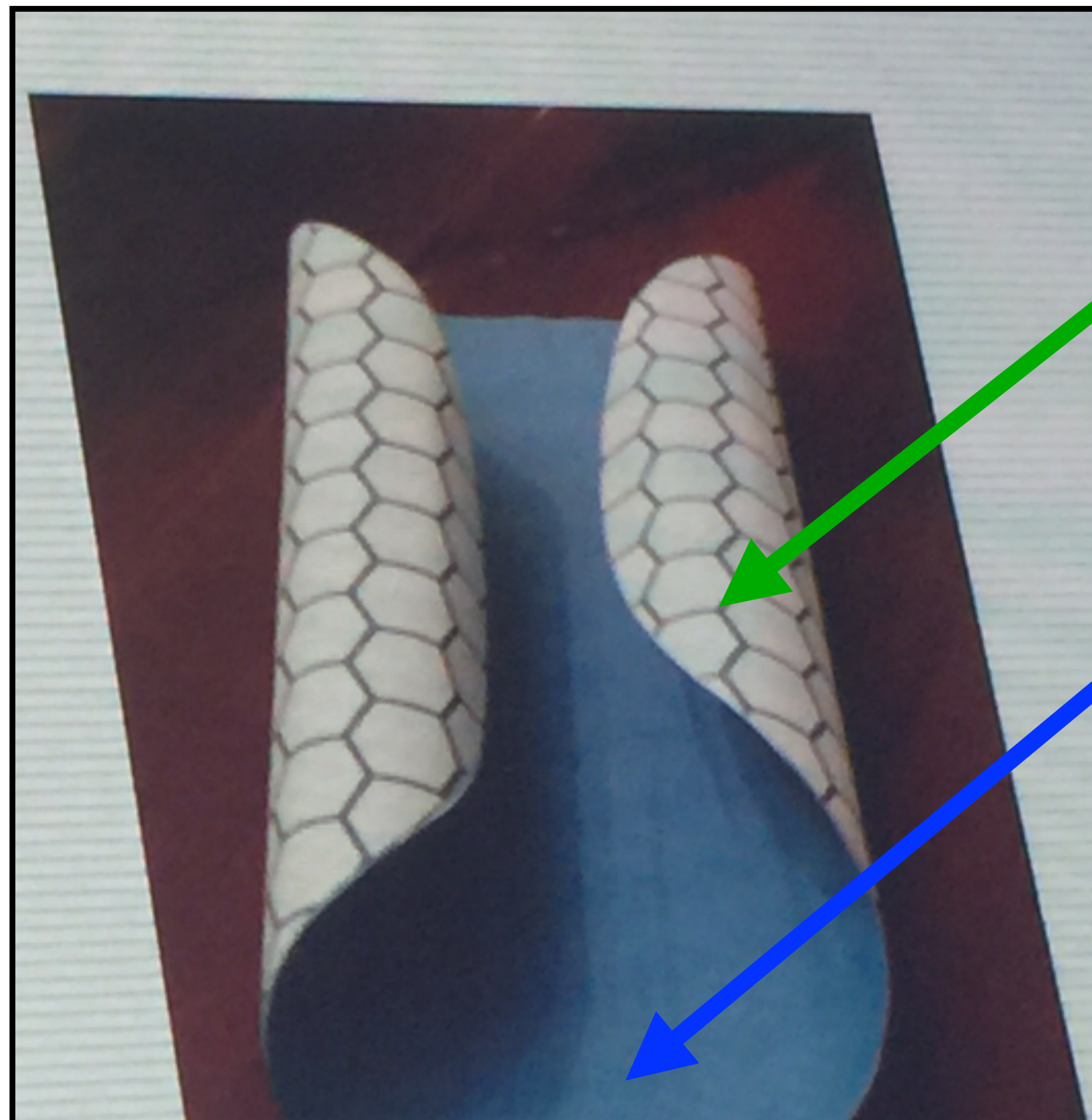
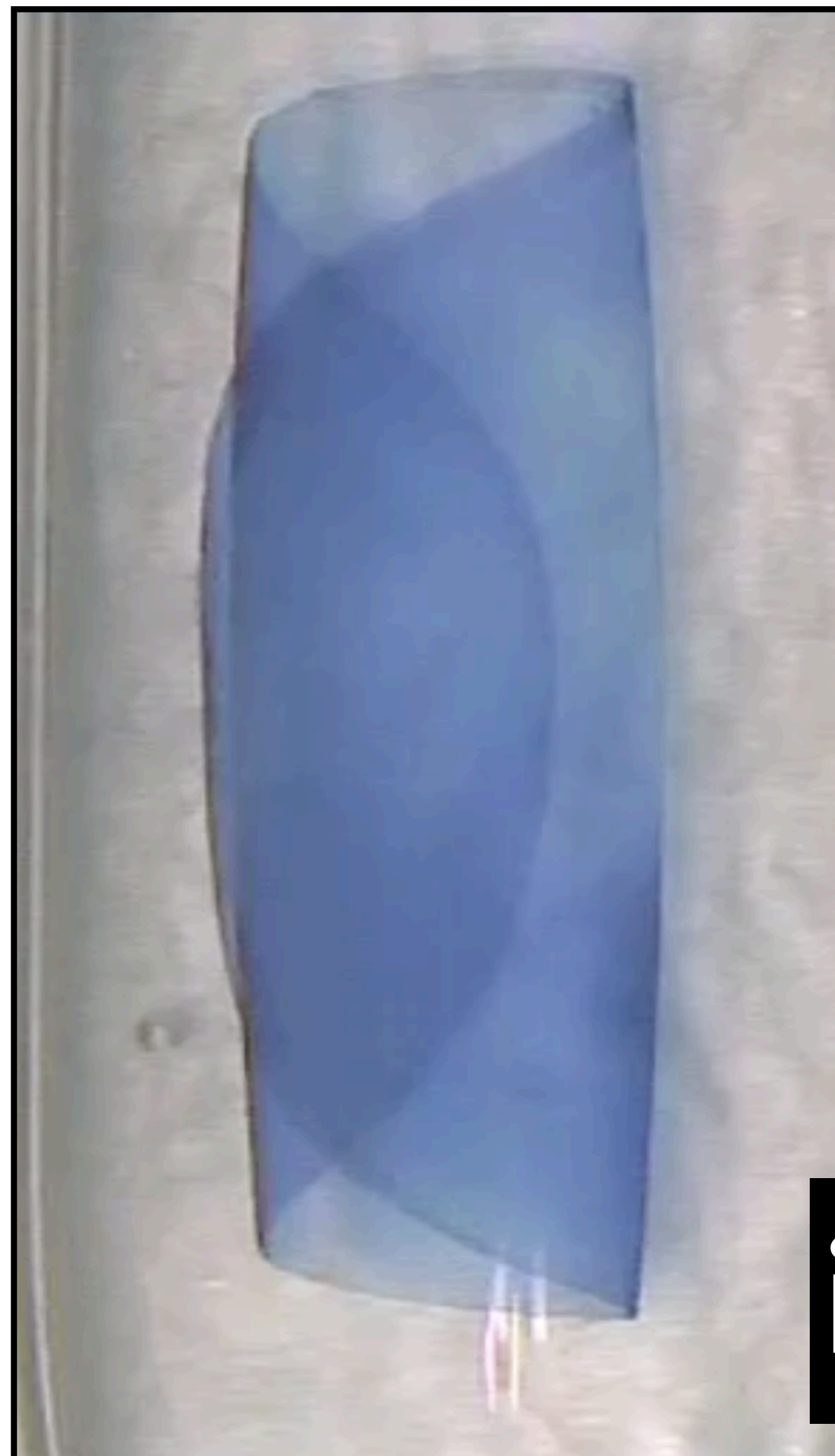
**PRIMARY
GRAFT
FAILURE**

NO WAY



DMEK graft orientation

(Natural behavior?)



Endothelium
outside

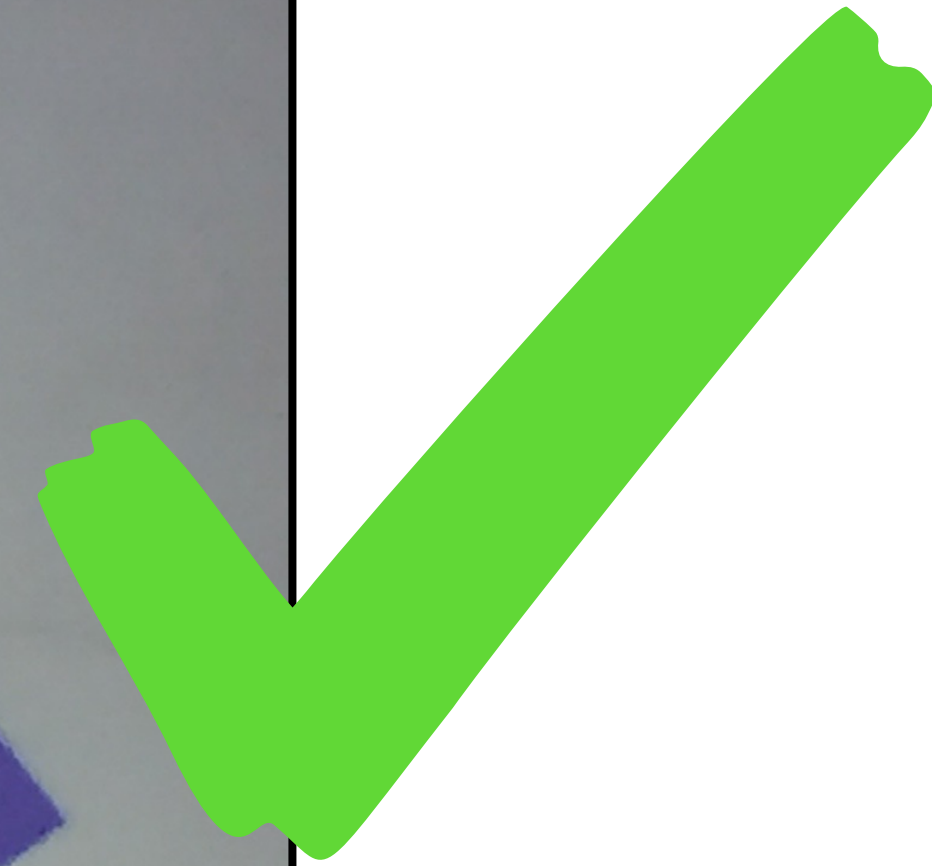
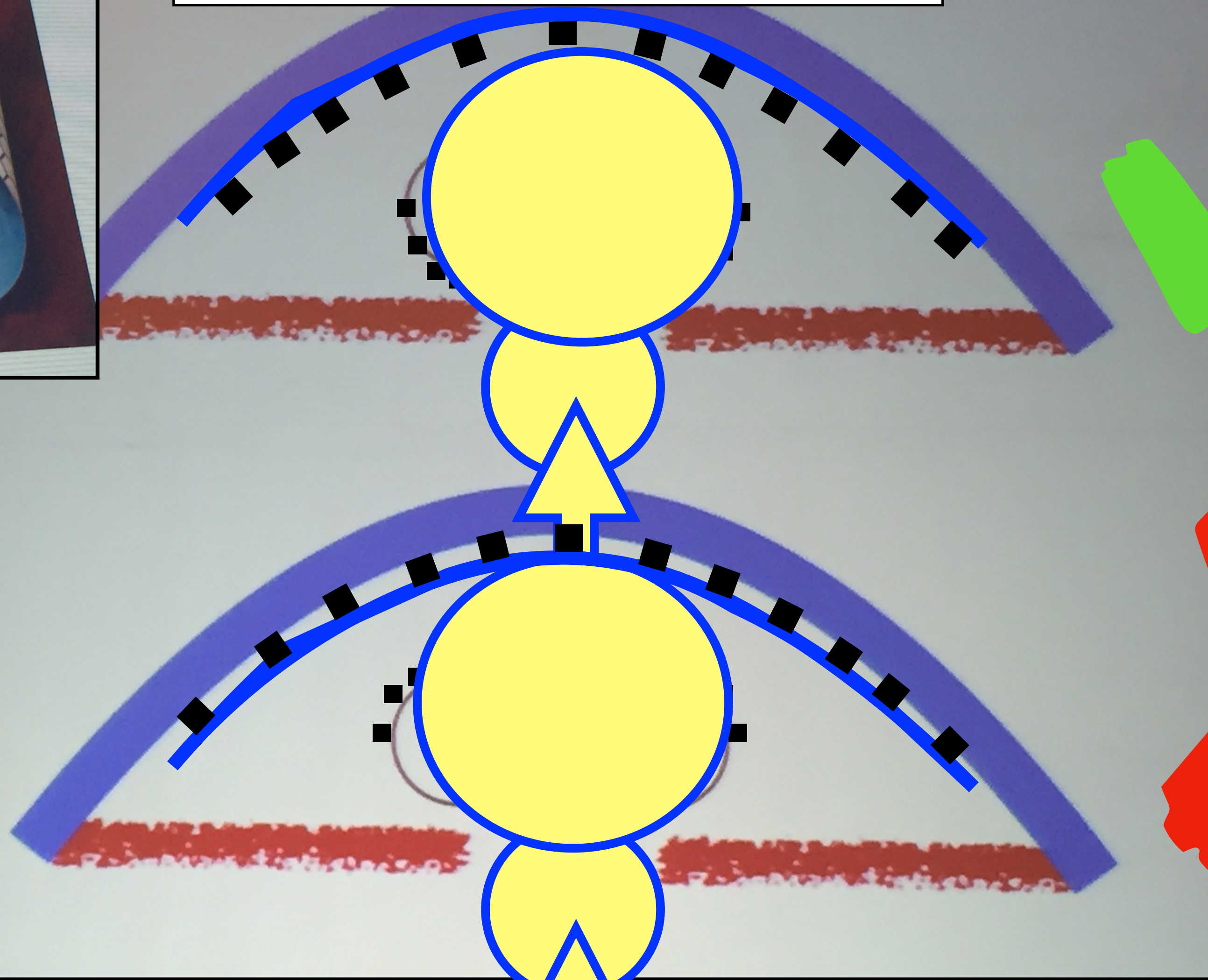
D.M. (elastic)
Inside

in 100% of cases



DMEK graft orientation

- Endothelium facing toward the iris
- Tissue scrolling up toward the stroma





How to avoid upside down DMEK graft

► Before injection of DMEK roll:

Proper orientation in cartridge

► After injection of DMEK roll:

- "Moutsouris sign": Blue cannula sign
- Tangential Endo-illumination

► During unfolding DMEK roll:

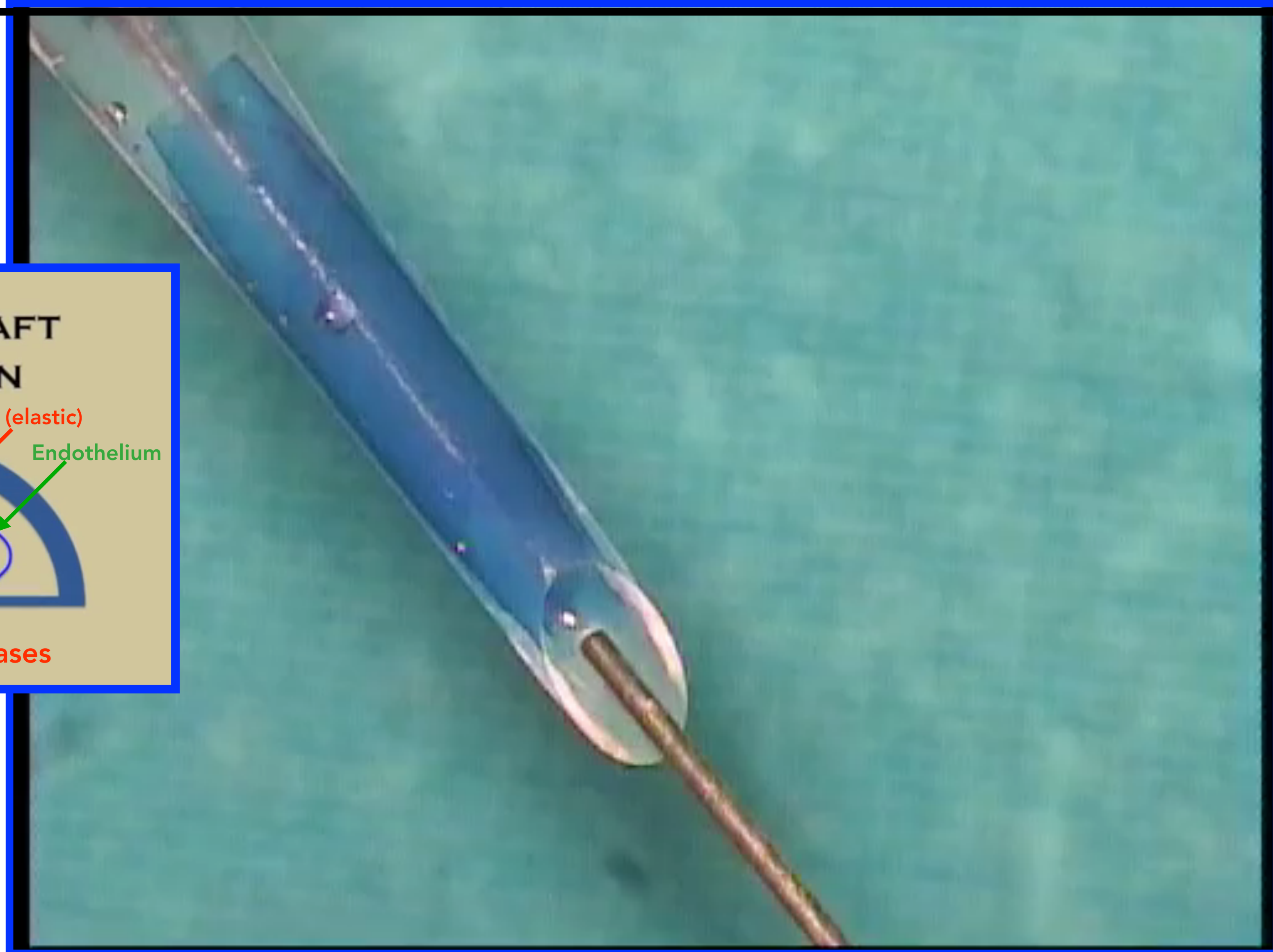
Intra-operative **AS-OCT**

► After fixing DMEK roll to stroma:

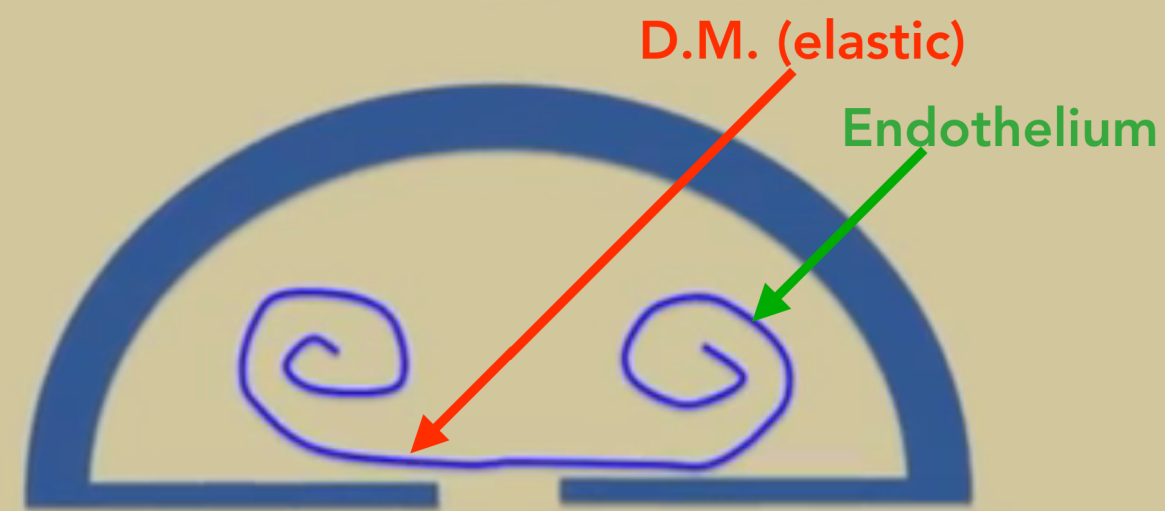
"S" Stromal stamp



Before injection of DMEK roll



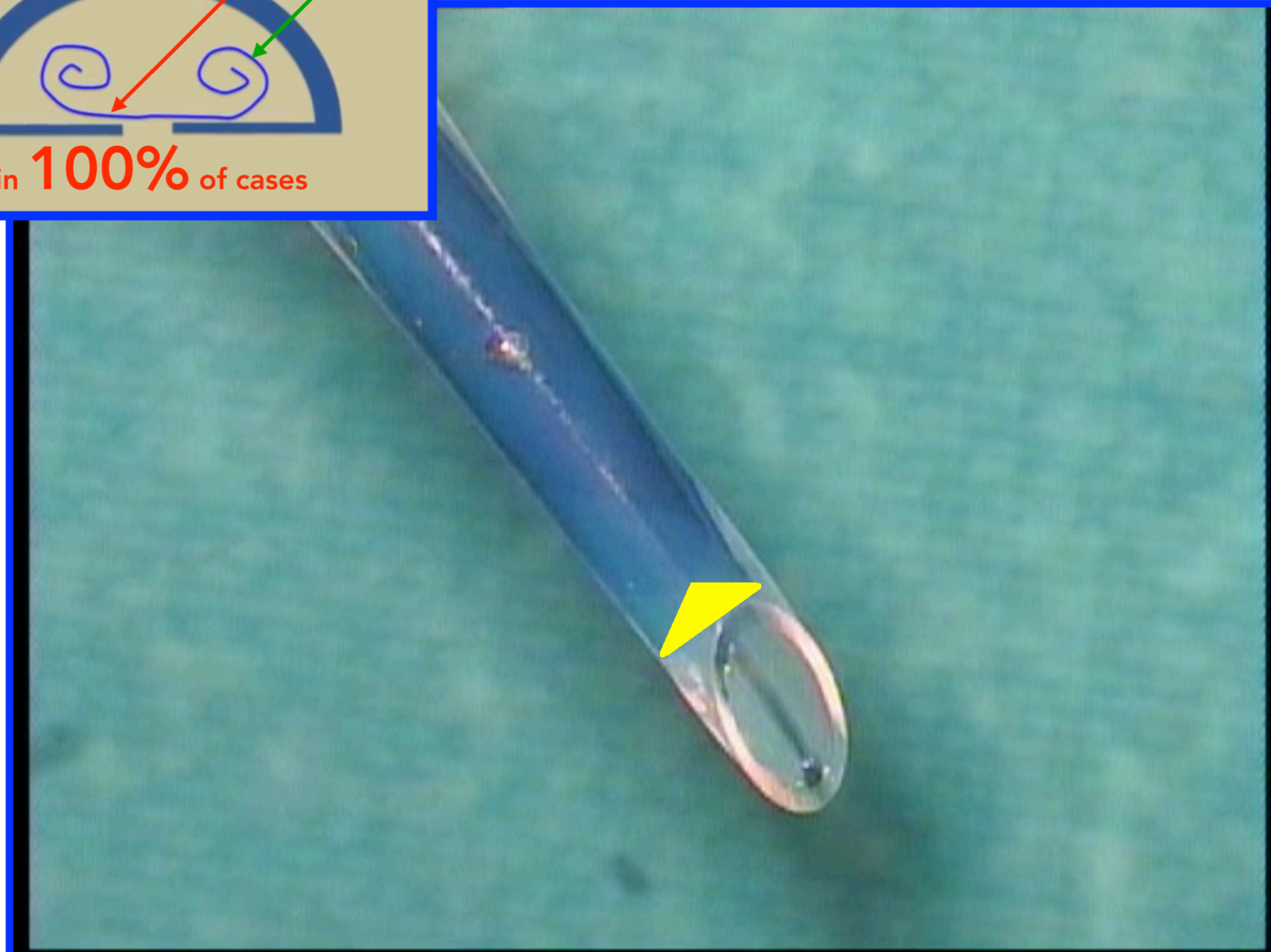
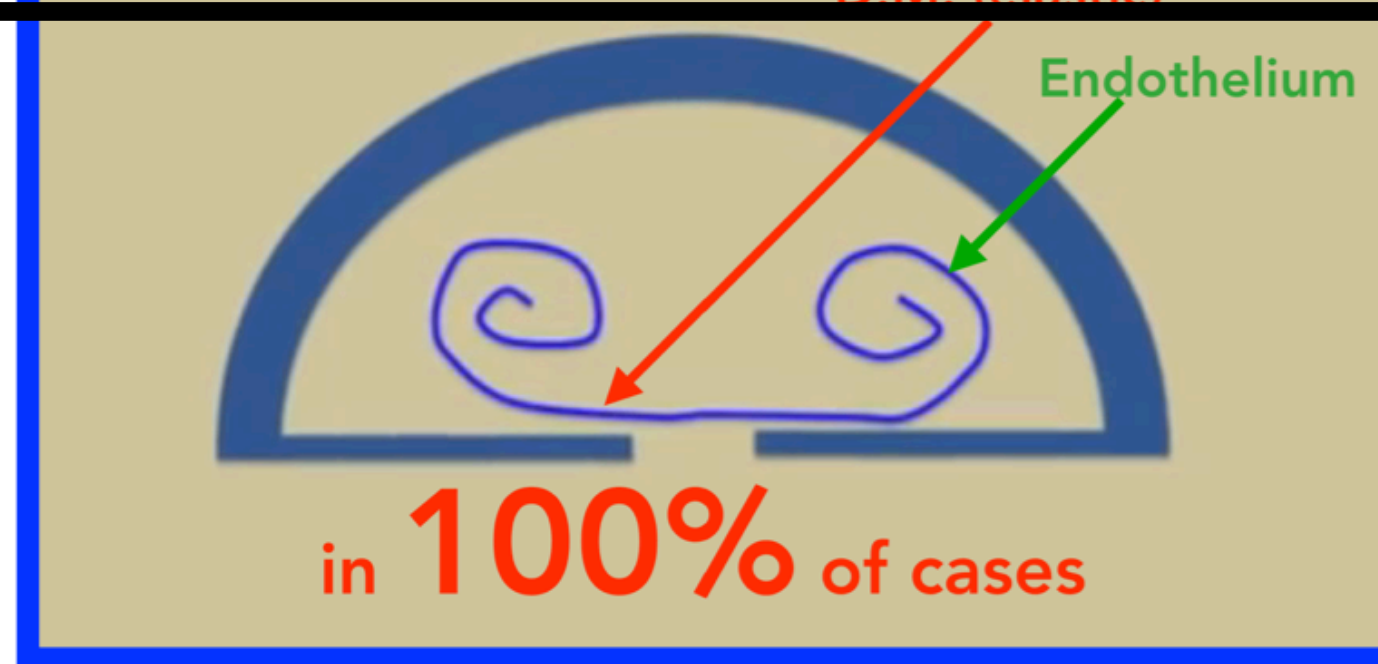
CORRECT GRAFT
ORIENTATION



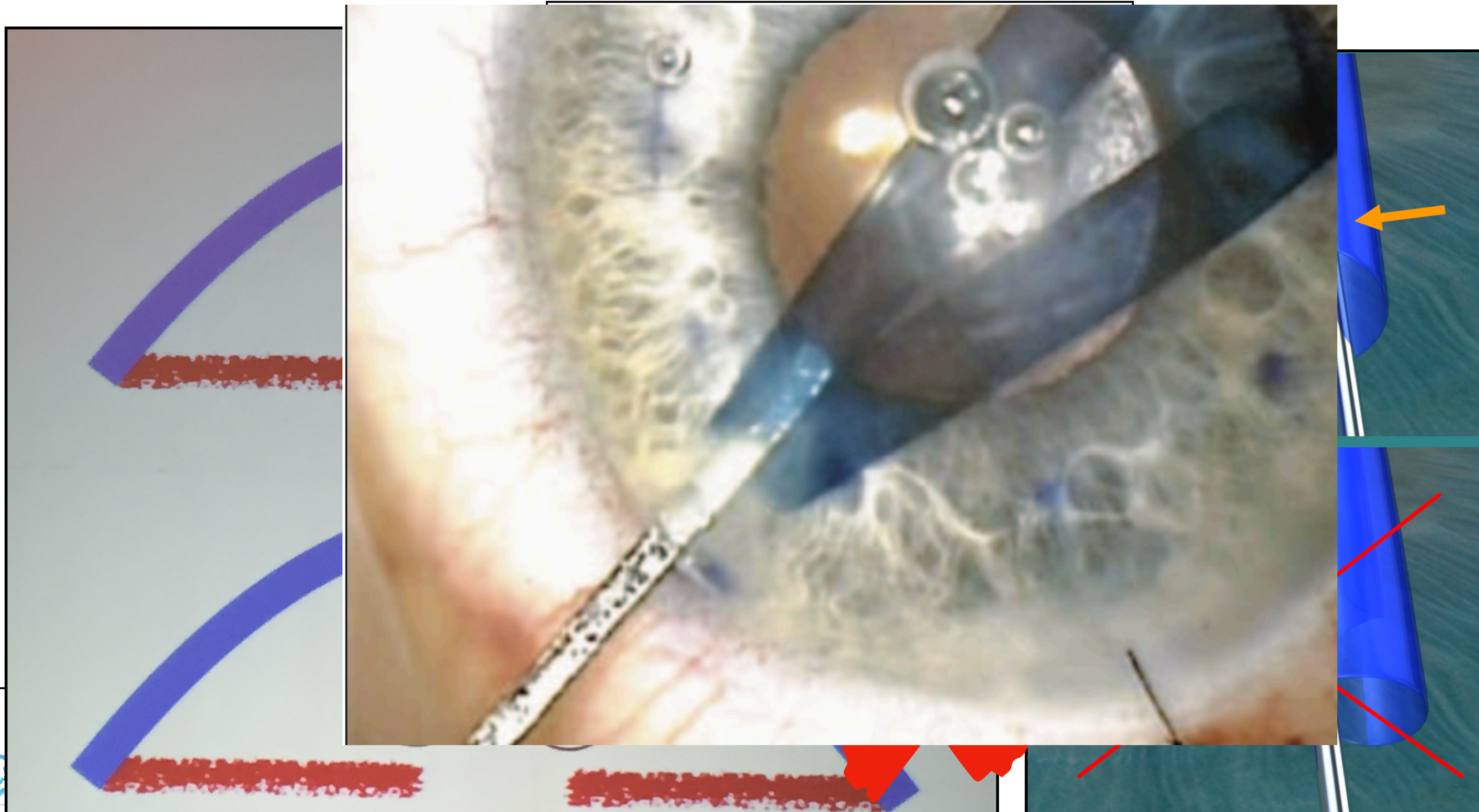
in **100%** of cases



How to avoid upside down DMEEK graft

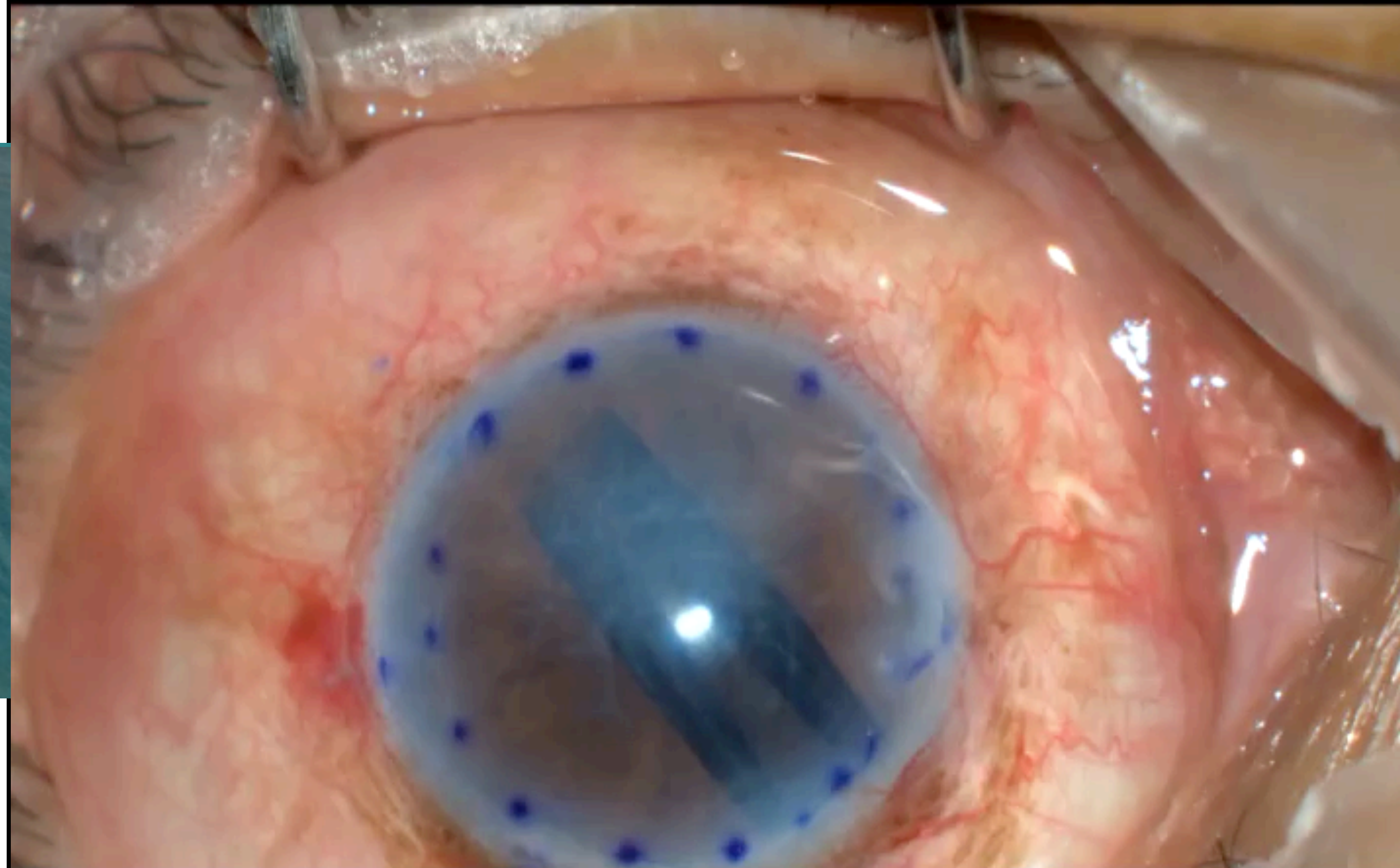


DMEK graft orientation

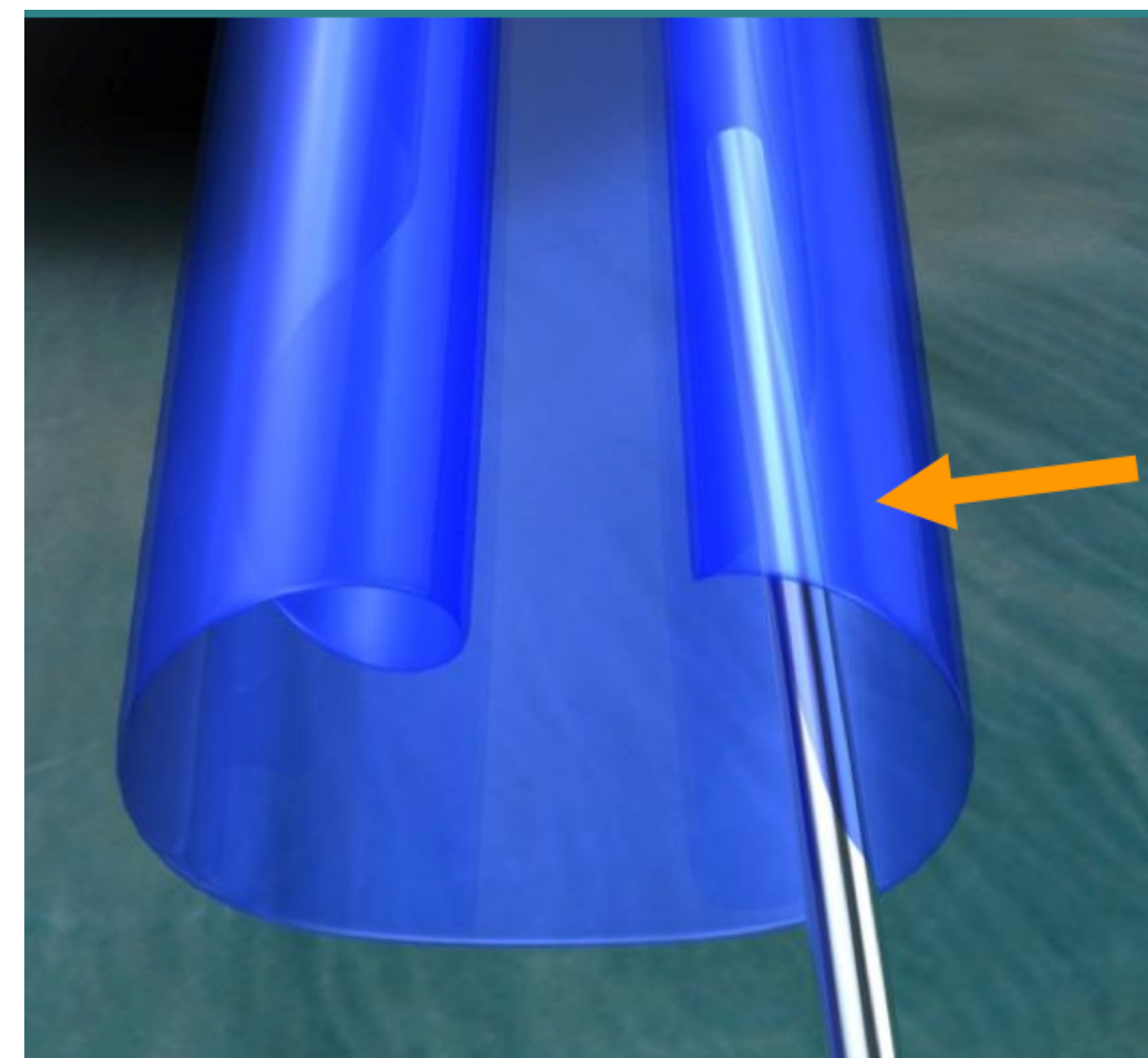


DMEK graft orientation

T. Katamish

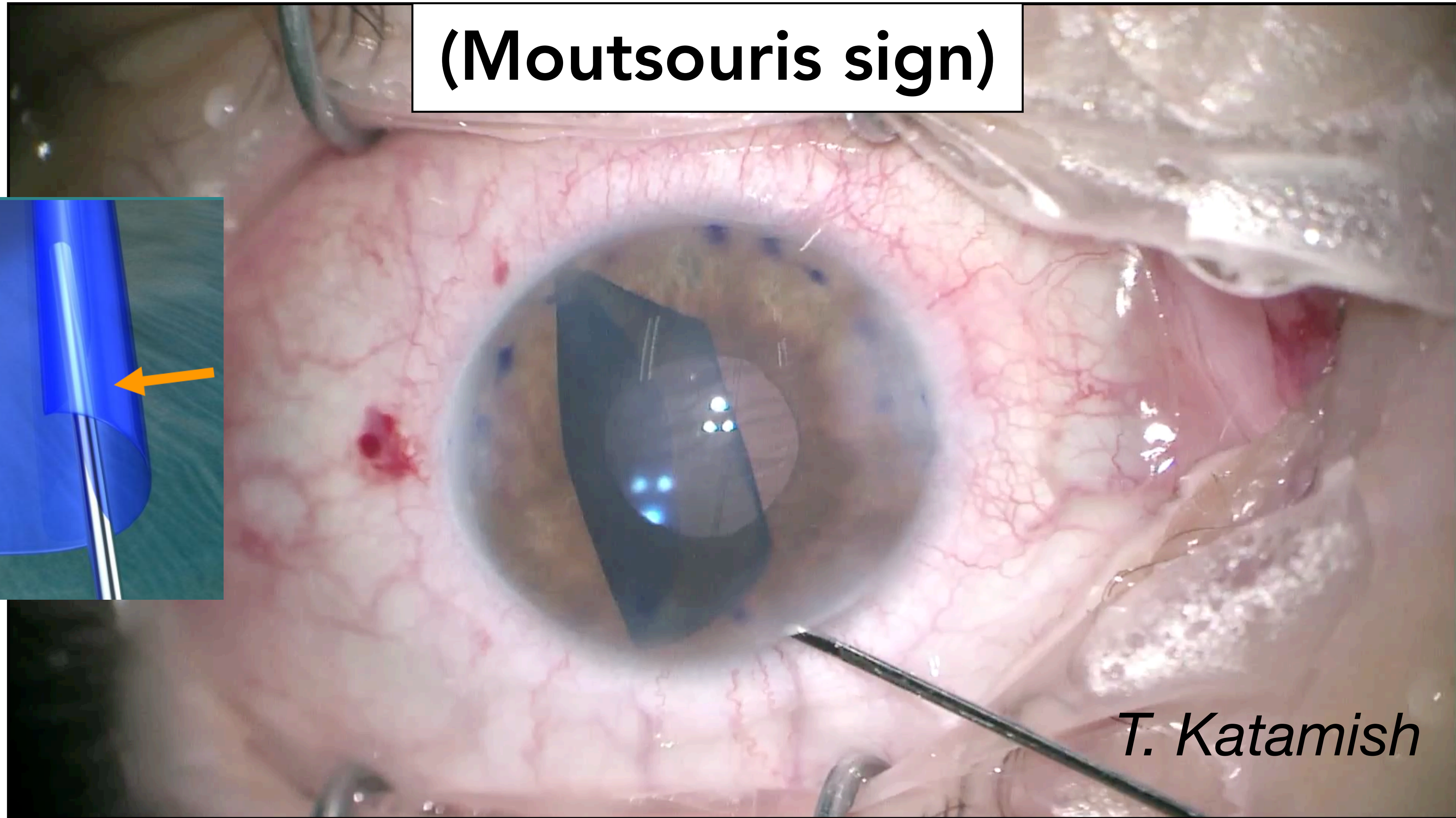


Moutsoris sign

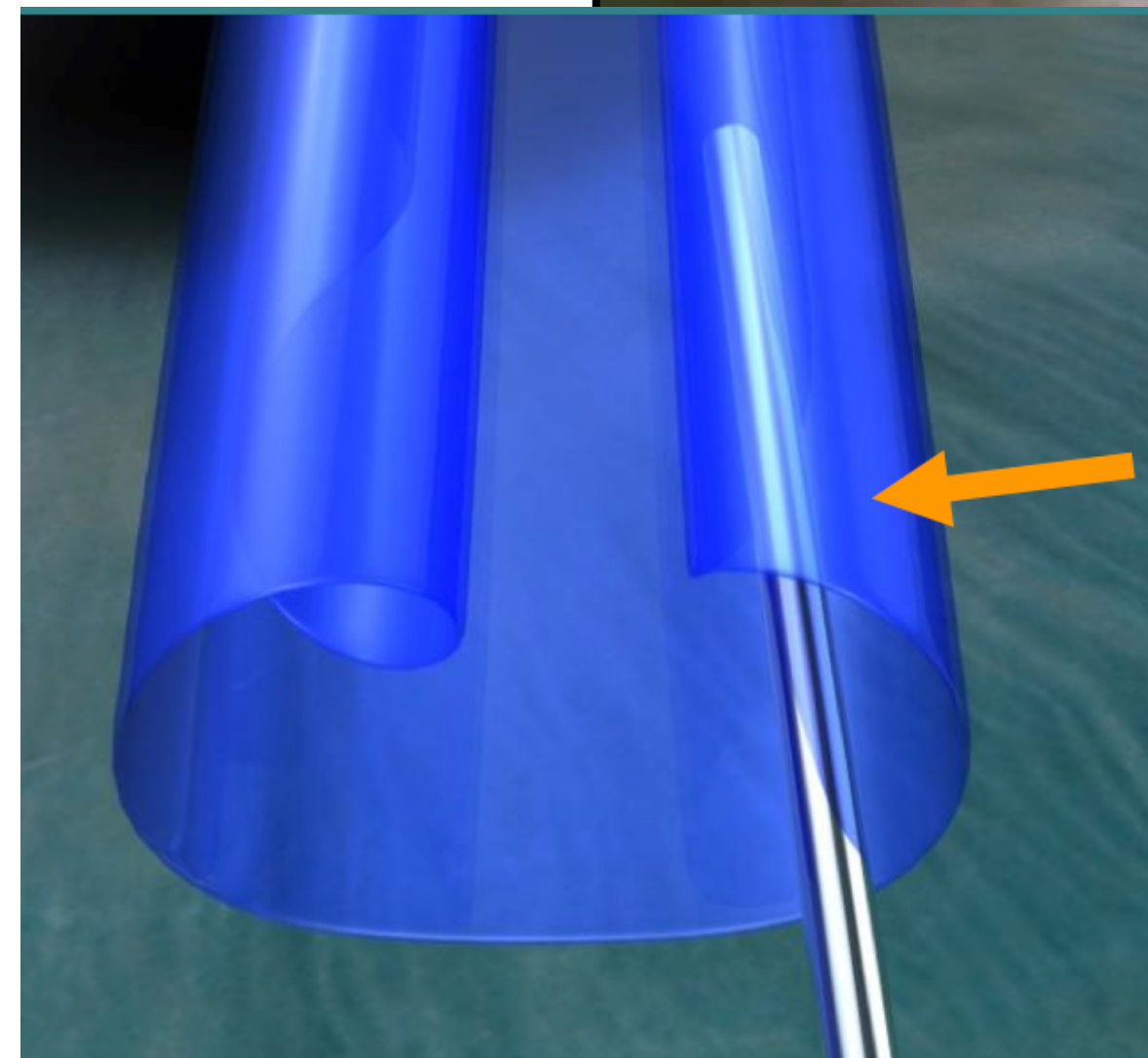


DMEK graft orientation

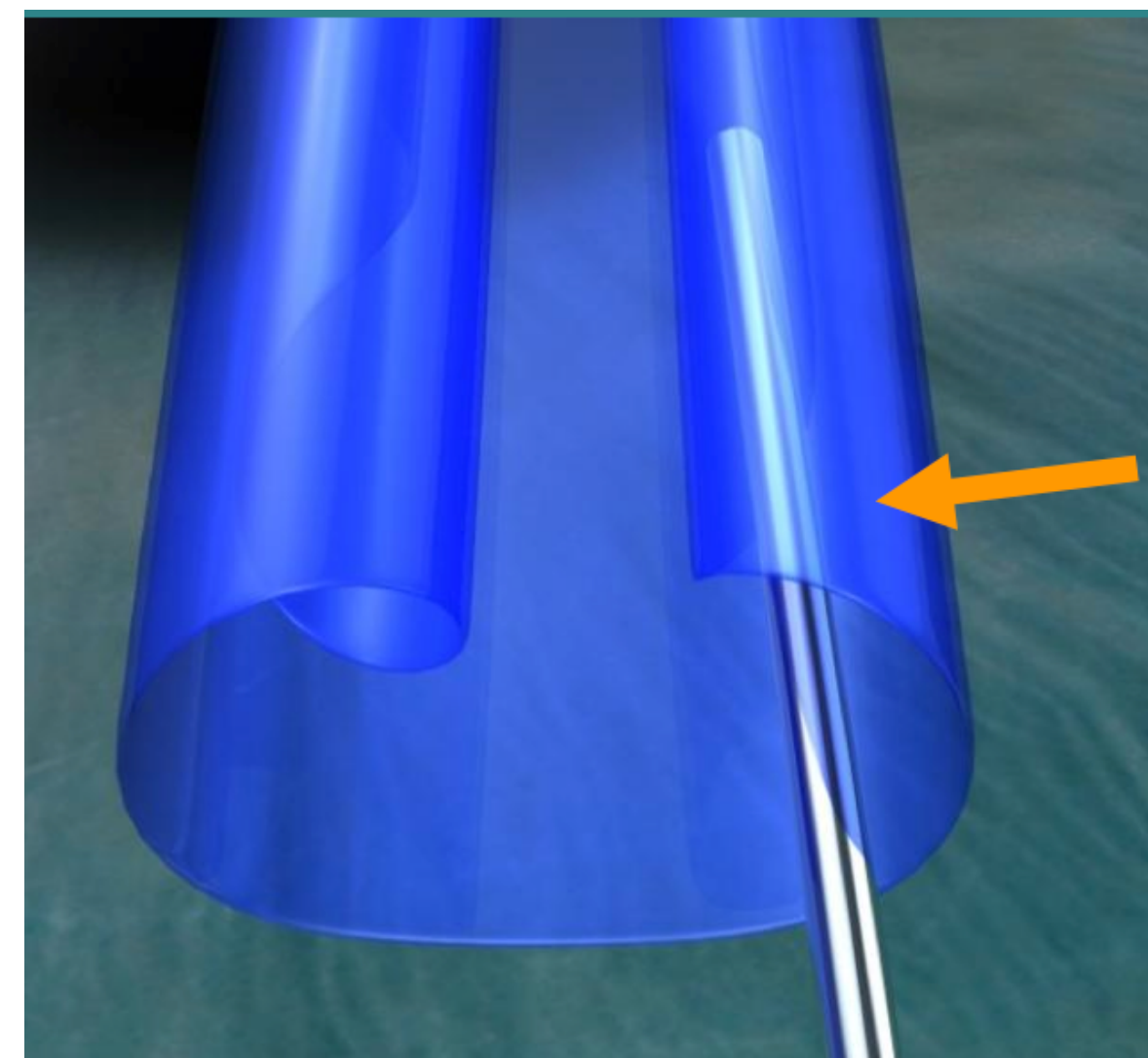
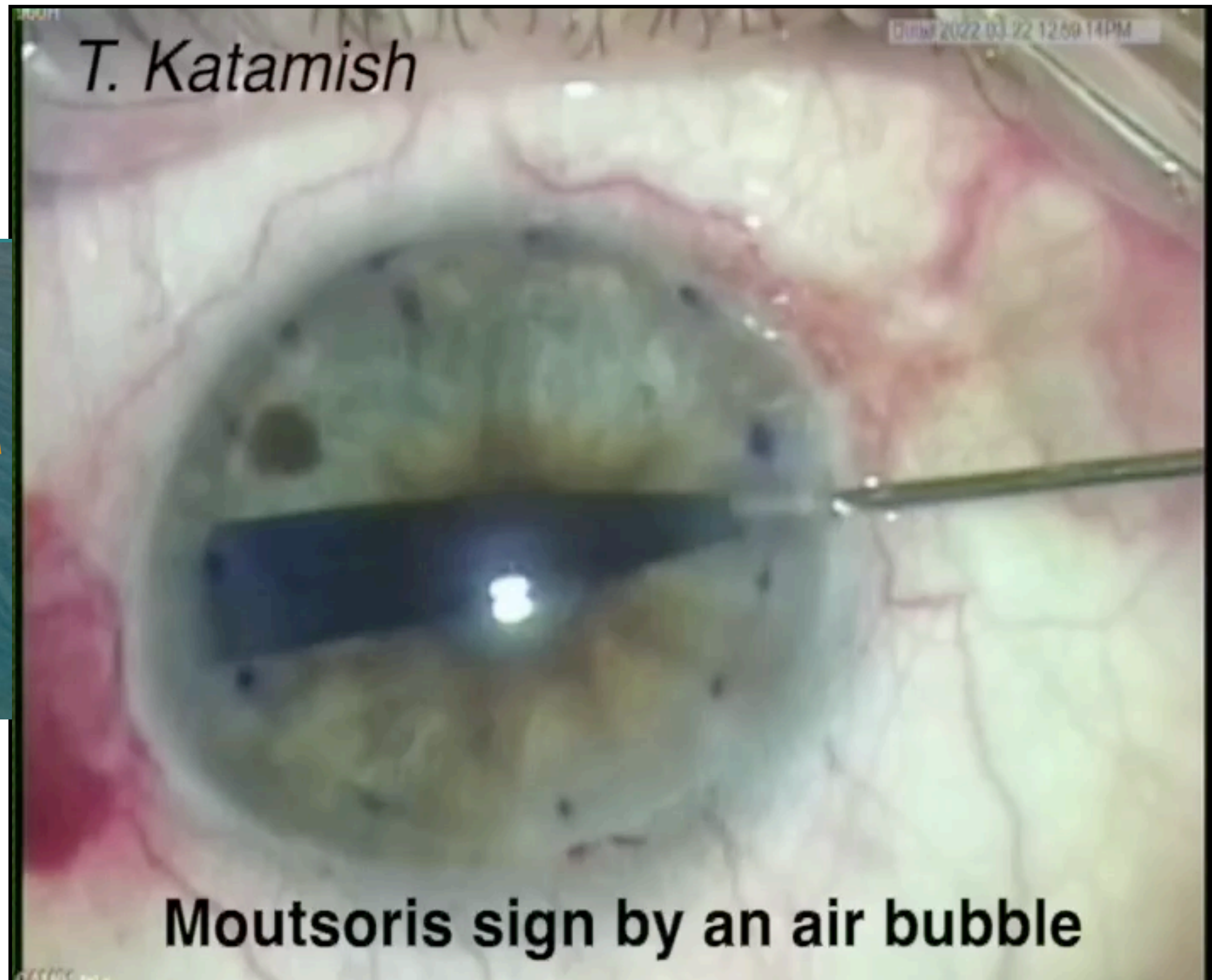
(Moutsouris sign)



T. Katamish

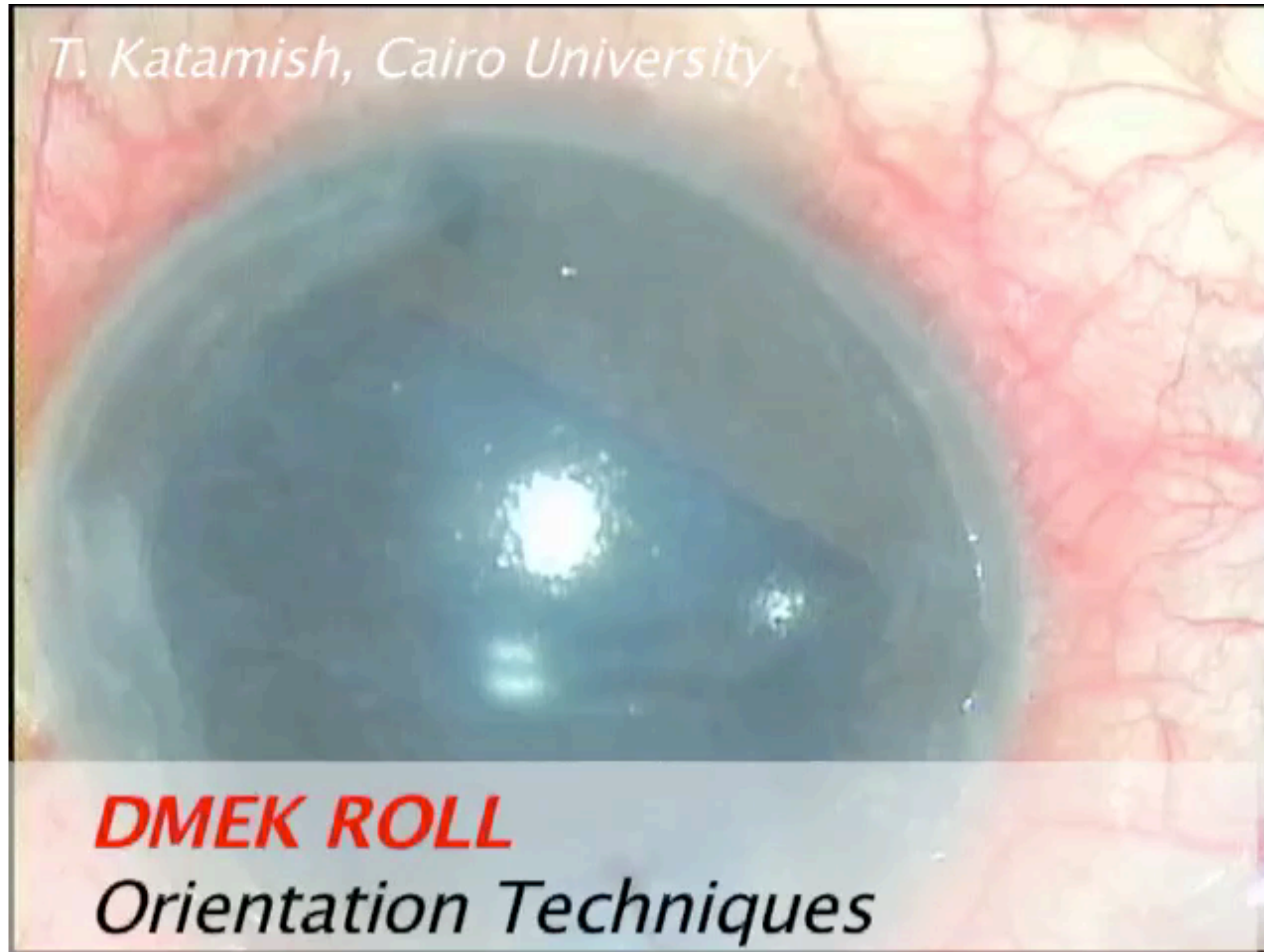


DMEK graft orientation



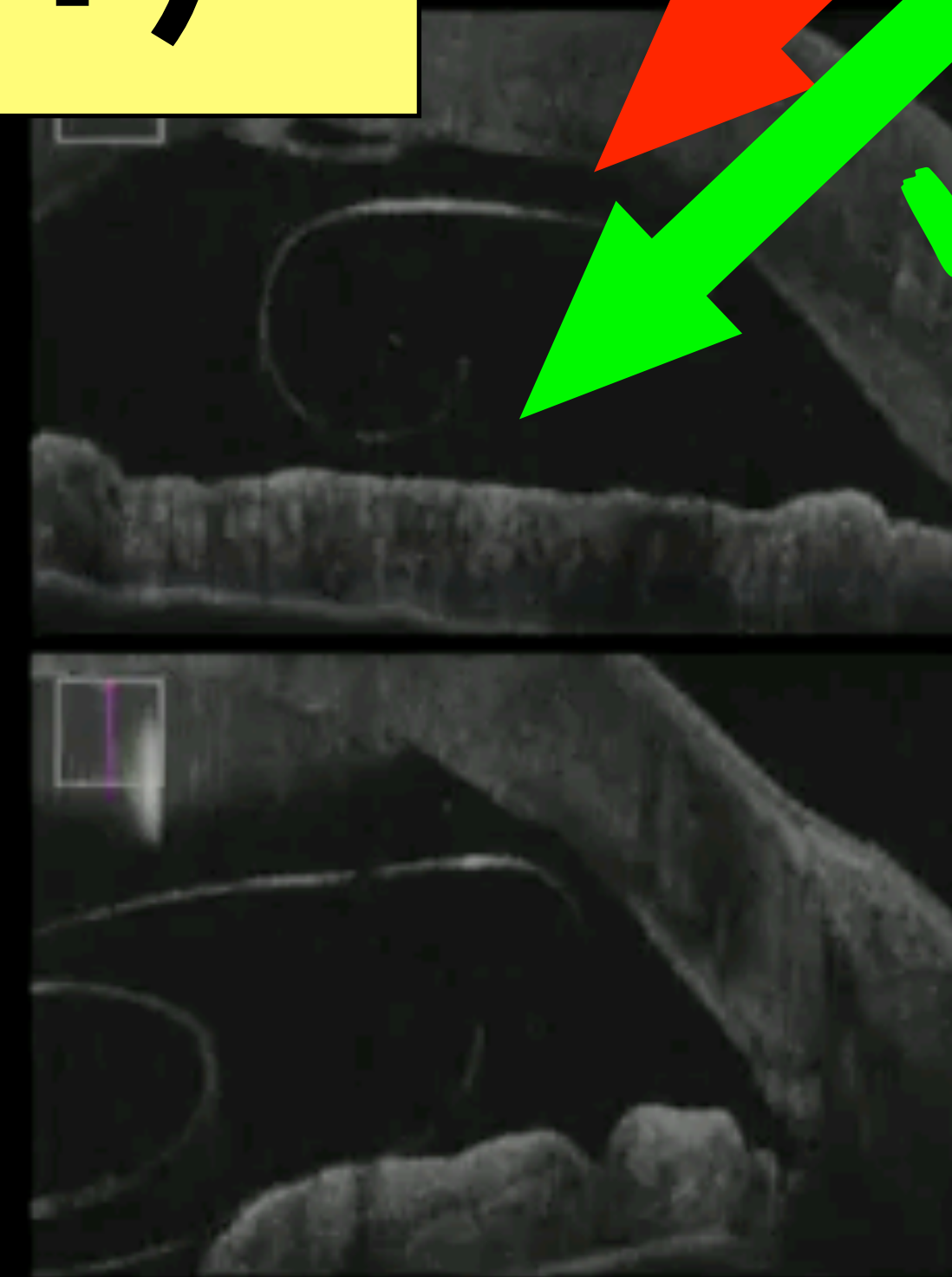
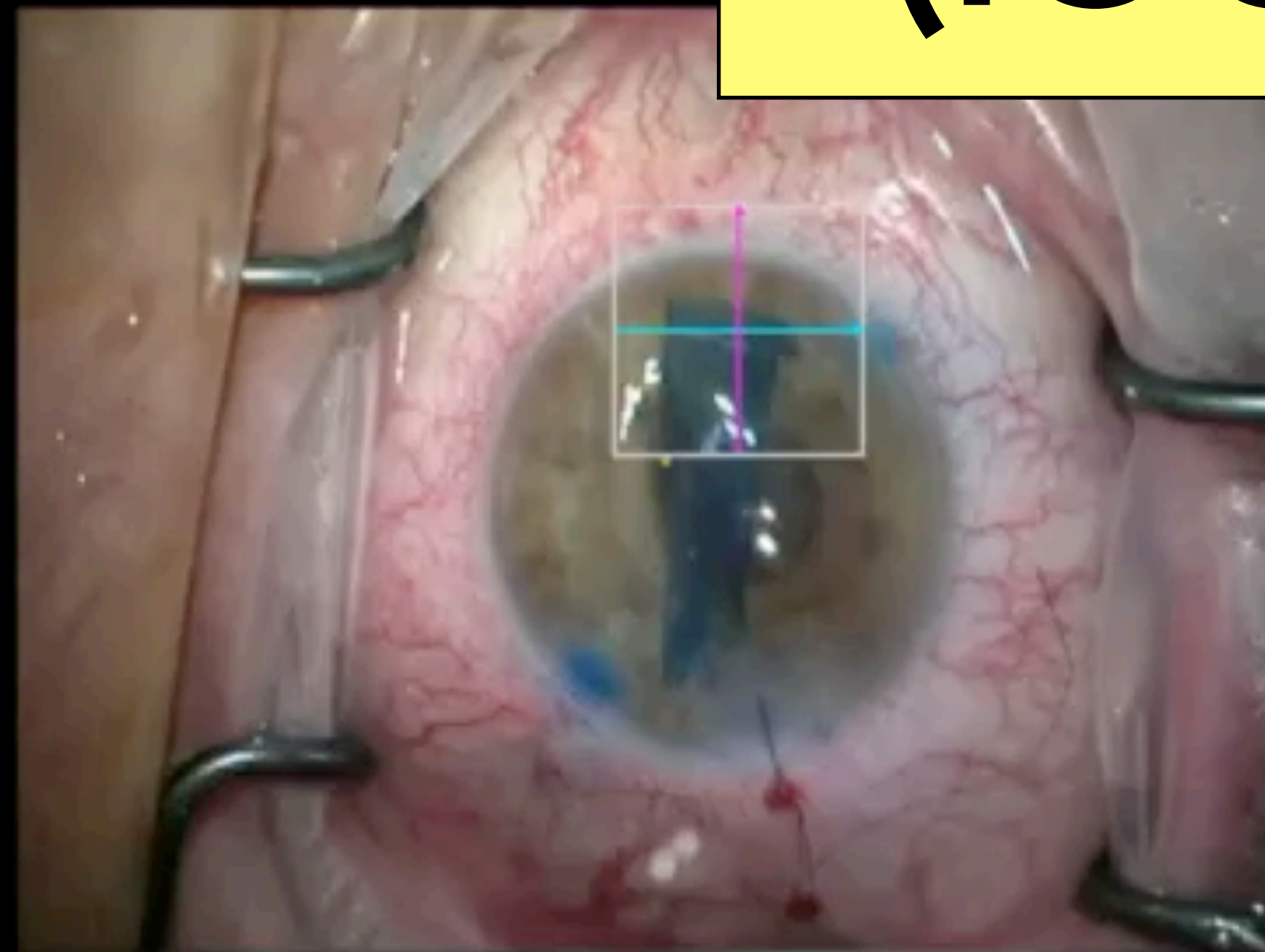
DMEK graft orientation

Tangential Endo-illumination



DMEK graft orientation

(iOCT)



OCT shows upside down graft orientation

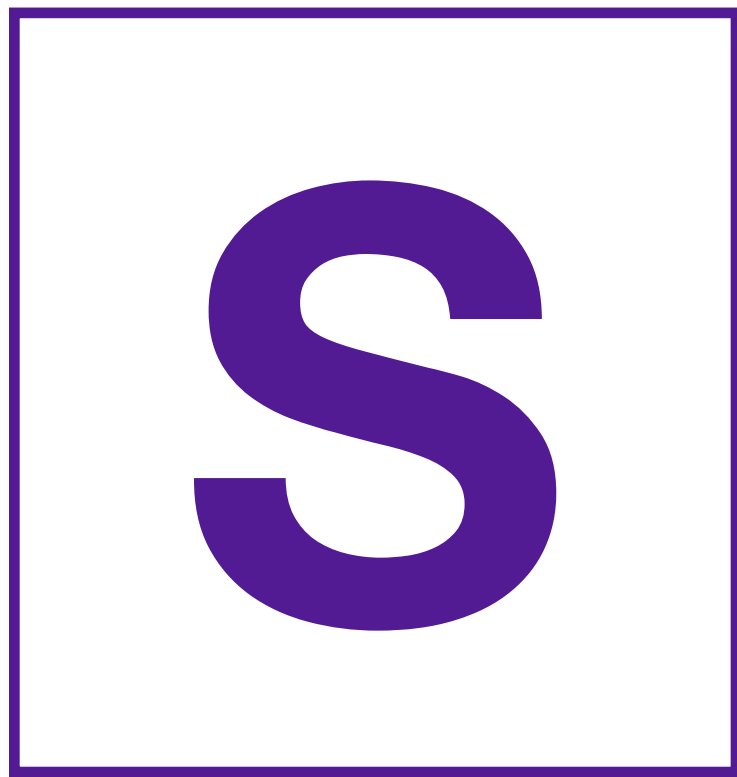
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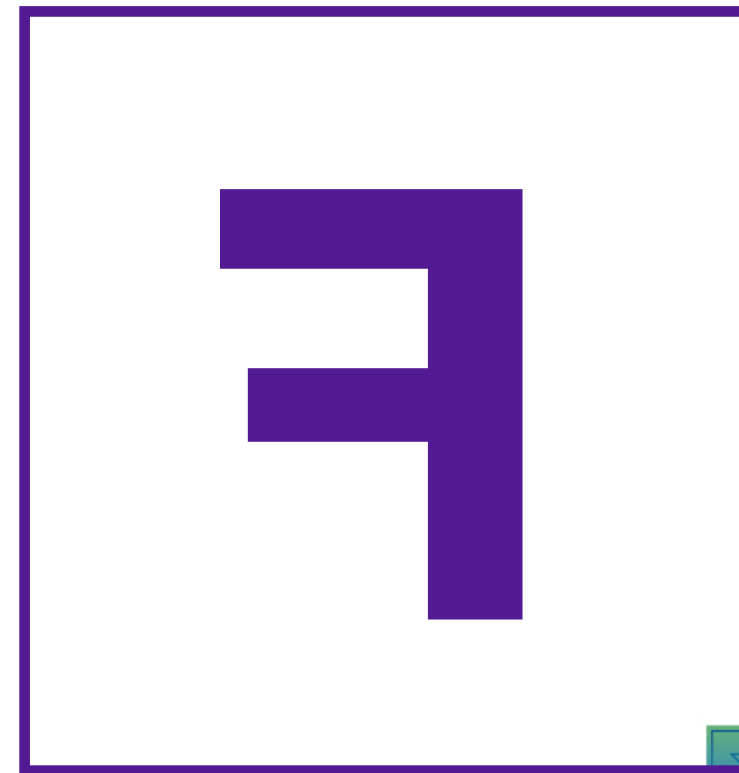
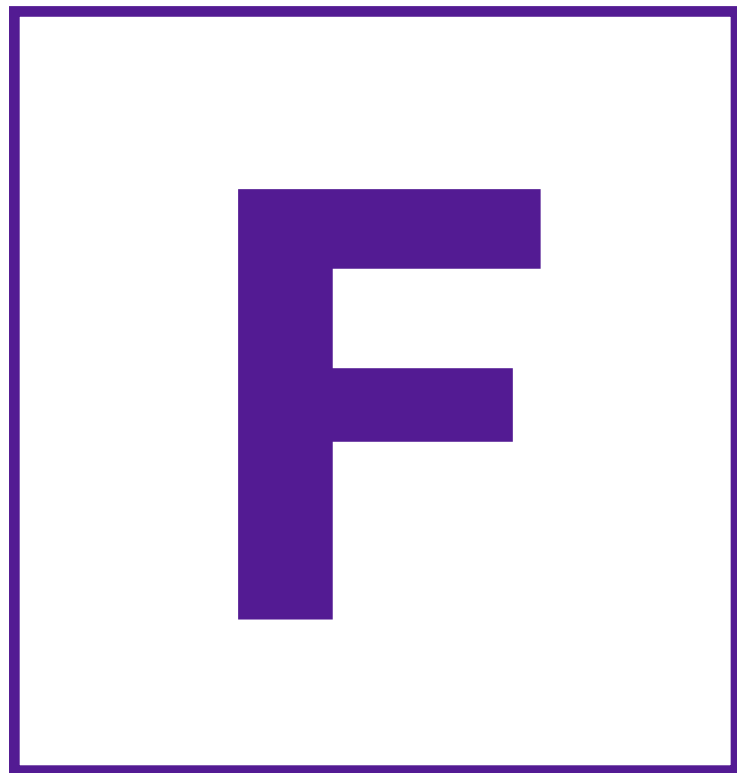
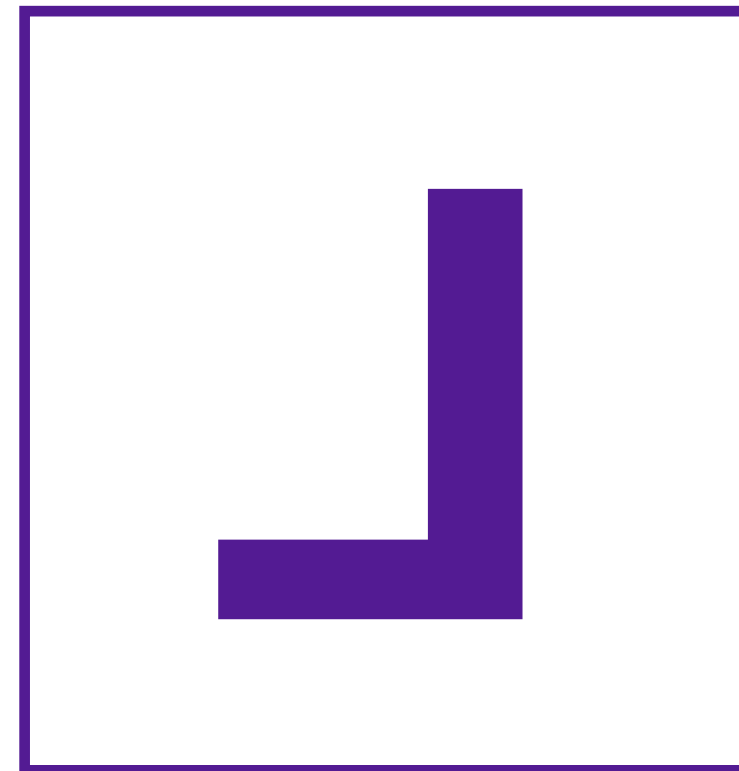
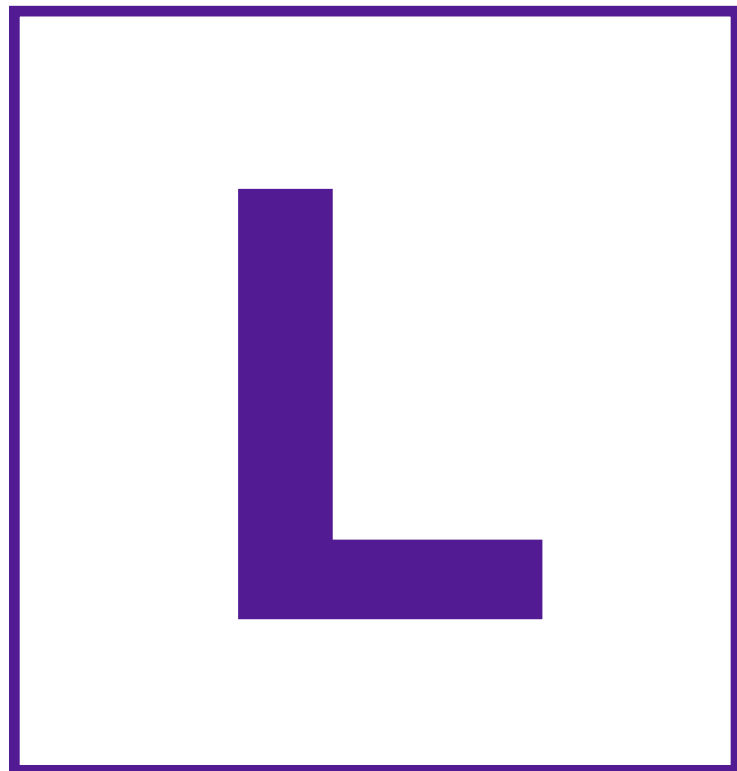
DMEK graft orientation

(S-Stromal stamp)





Flipping



EOS 2023



Flipping

A

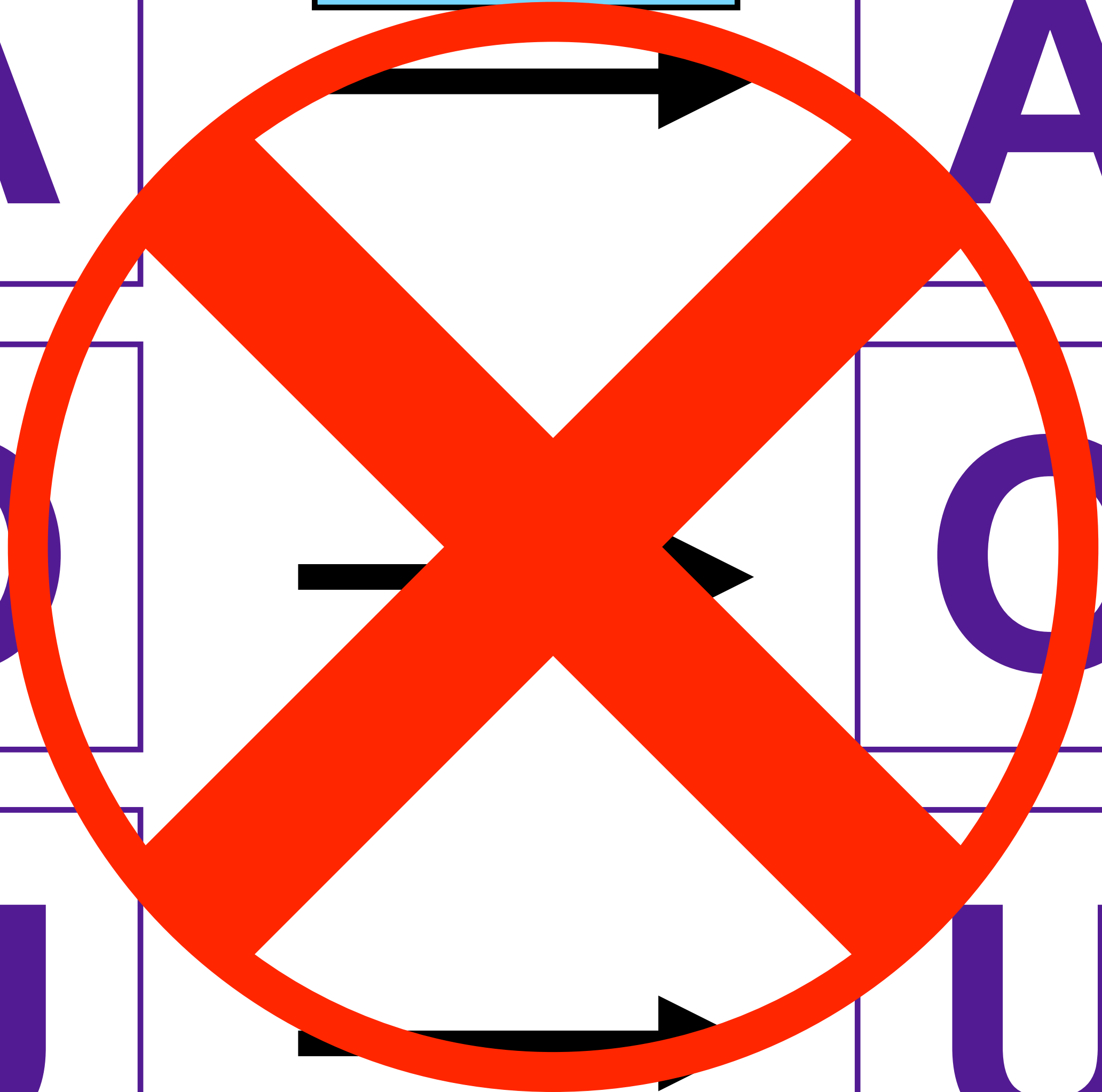
A

O

O

U

U



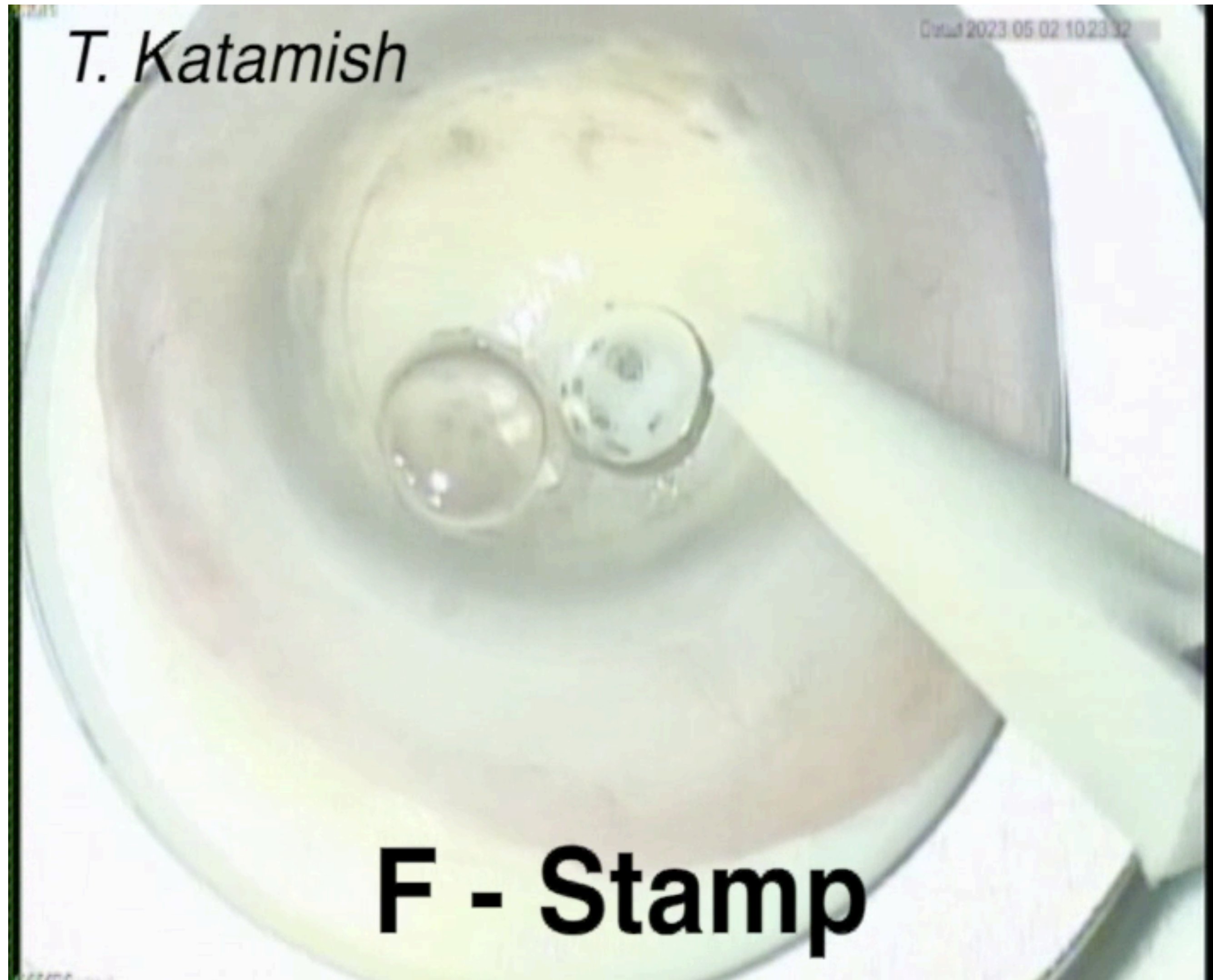
DMEK graft orientation

(S-Stromal stamp)

S-Stamp, T Katamish

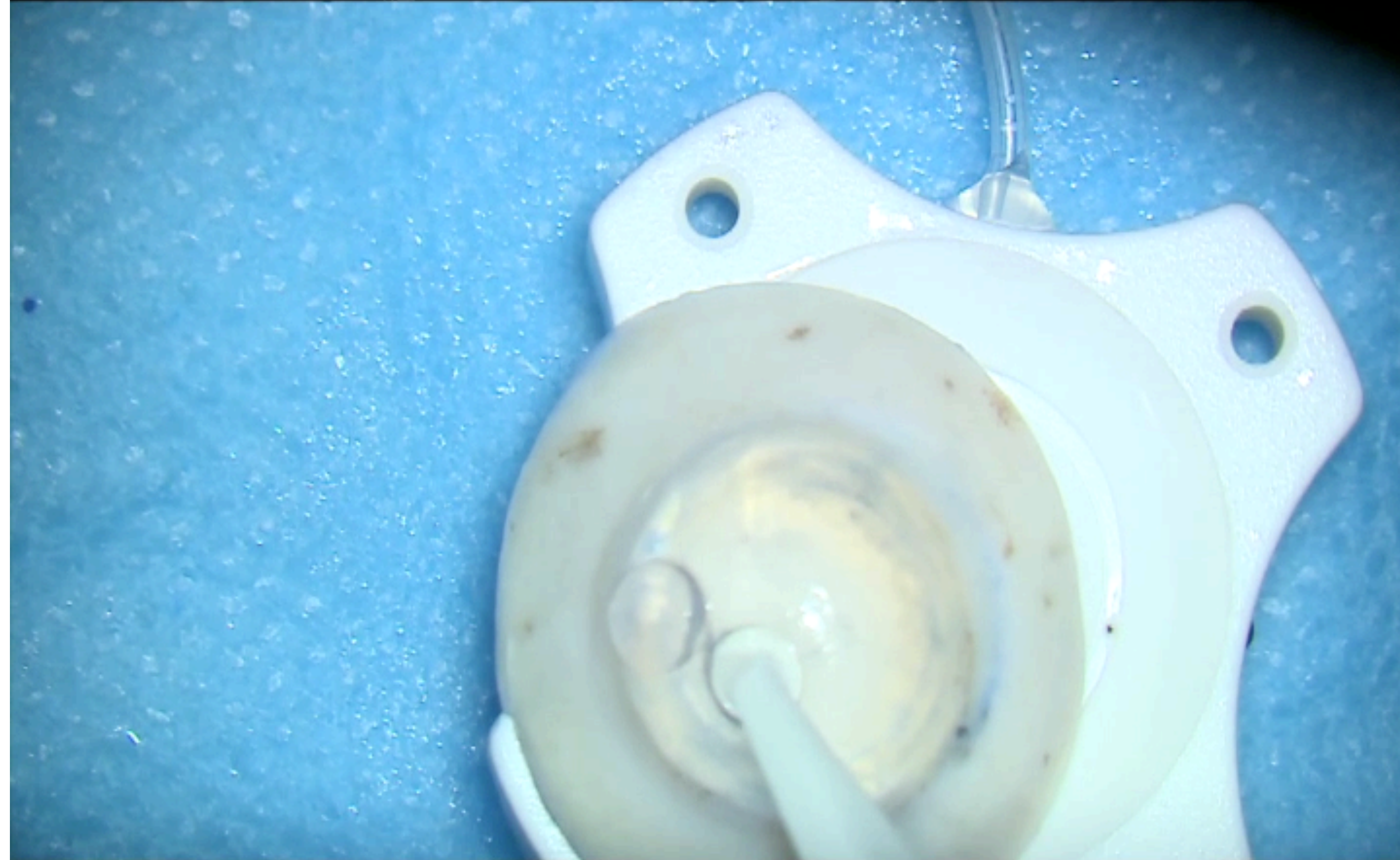


DMEK graft orientation



DMEK graft orientation

T. Katamish

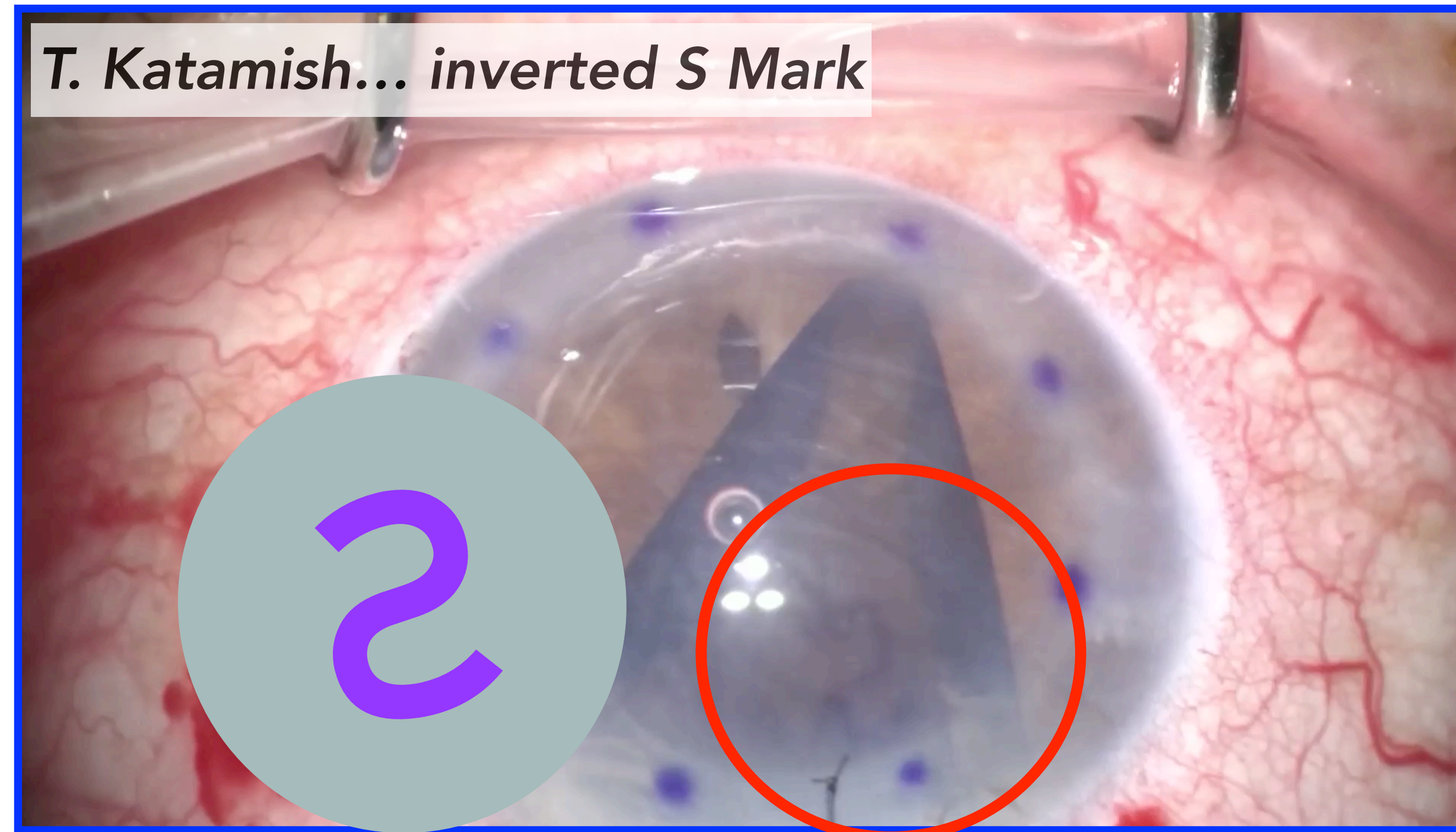


F - Stamp



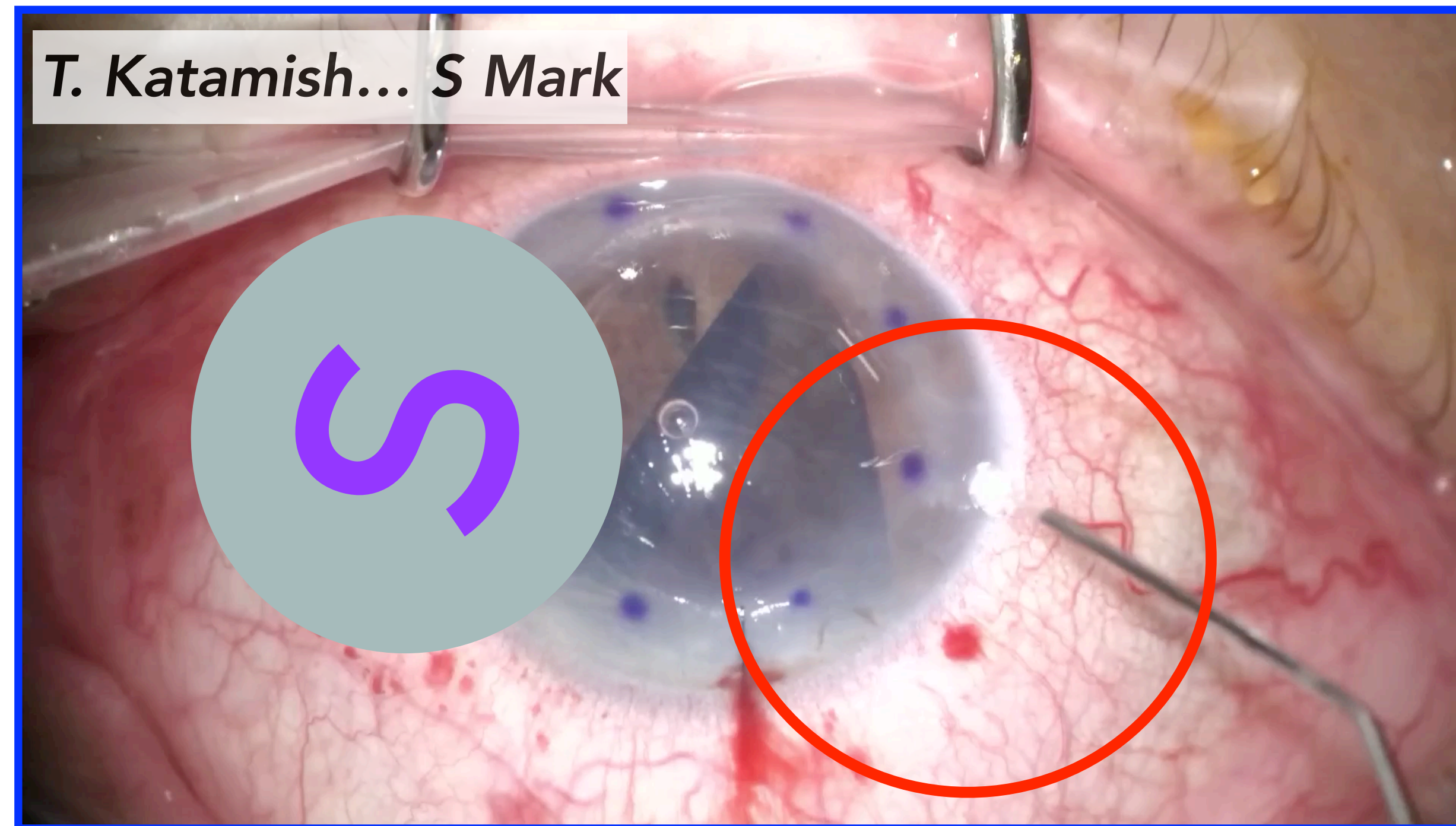
DMEK graft orientation

(S-Stromal stamp)



DMEK graft orientation

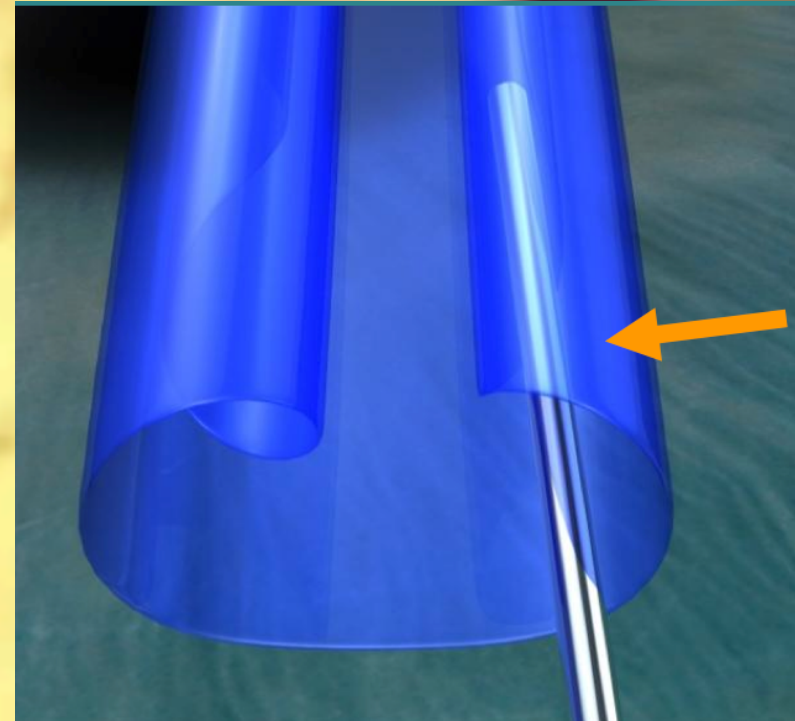
(S-Stromal stamp)



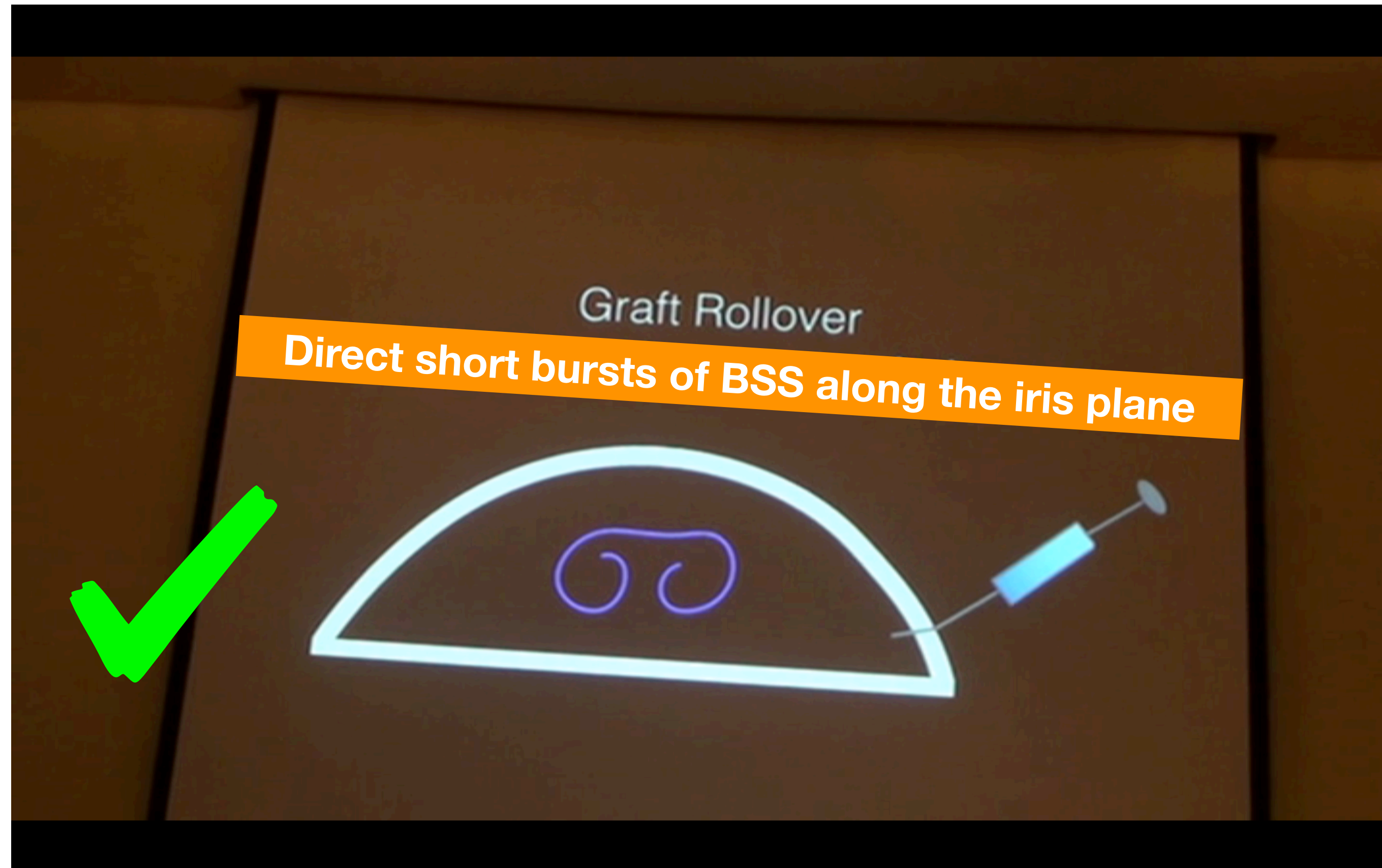
Inverted Flap S & Moutsoris signs

2

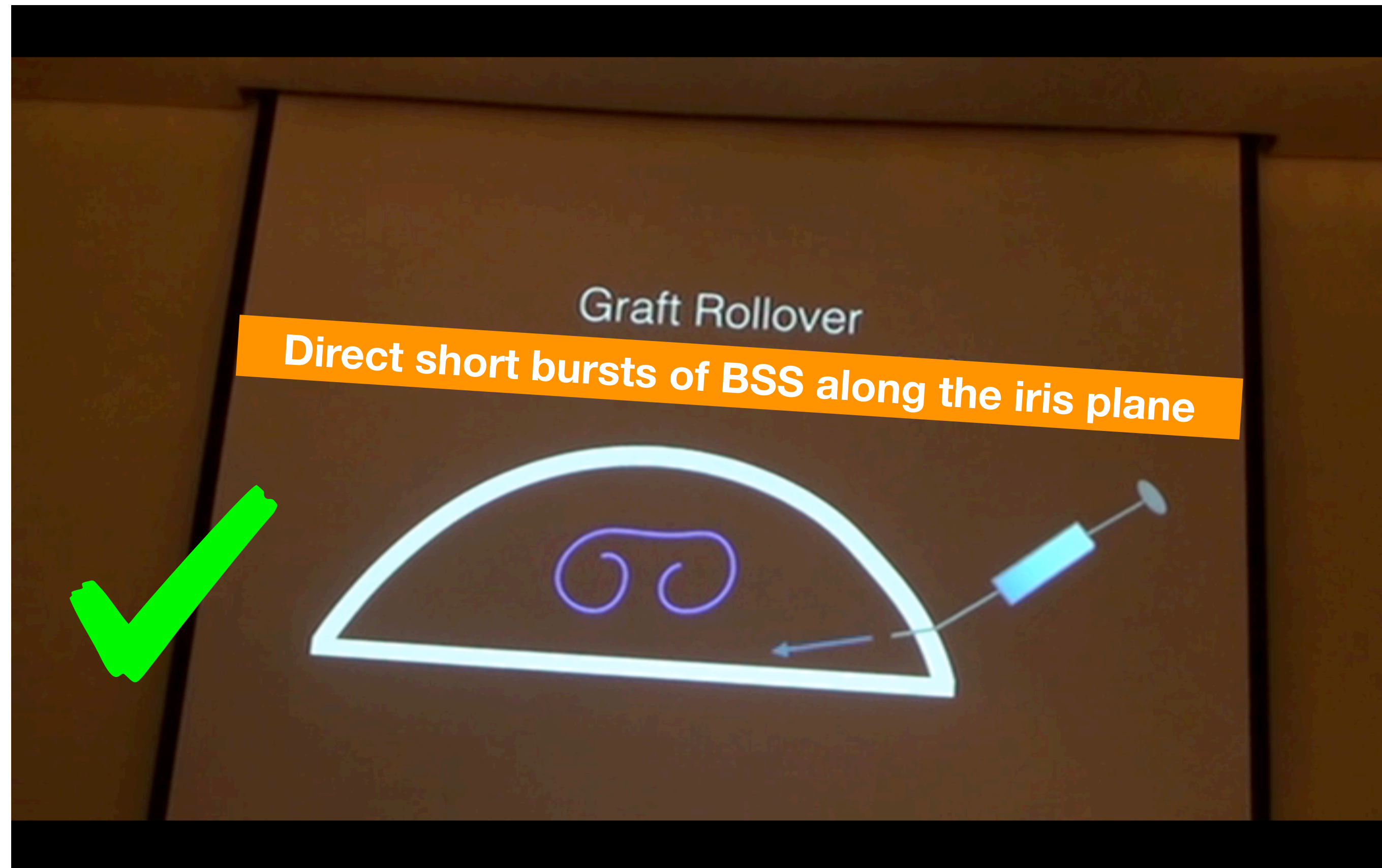
S



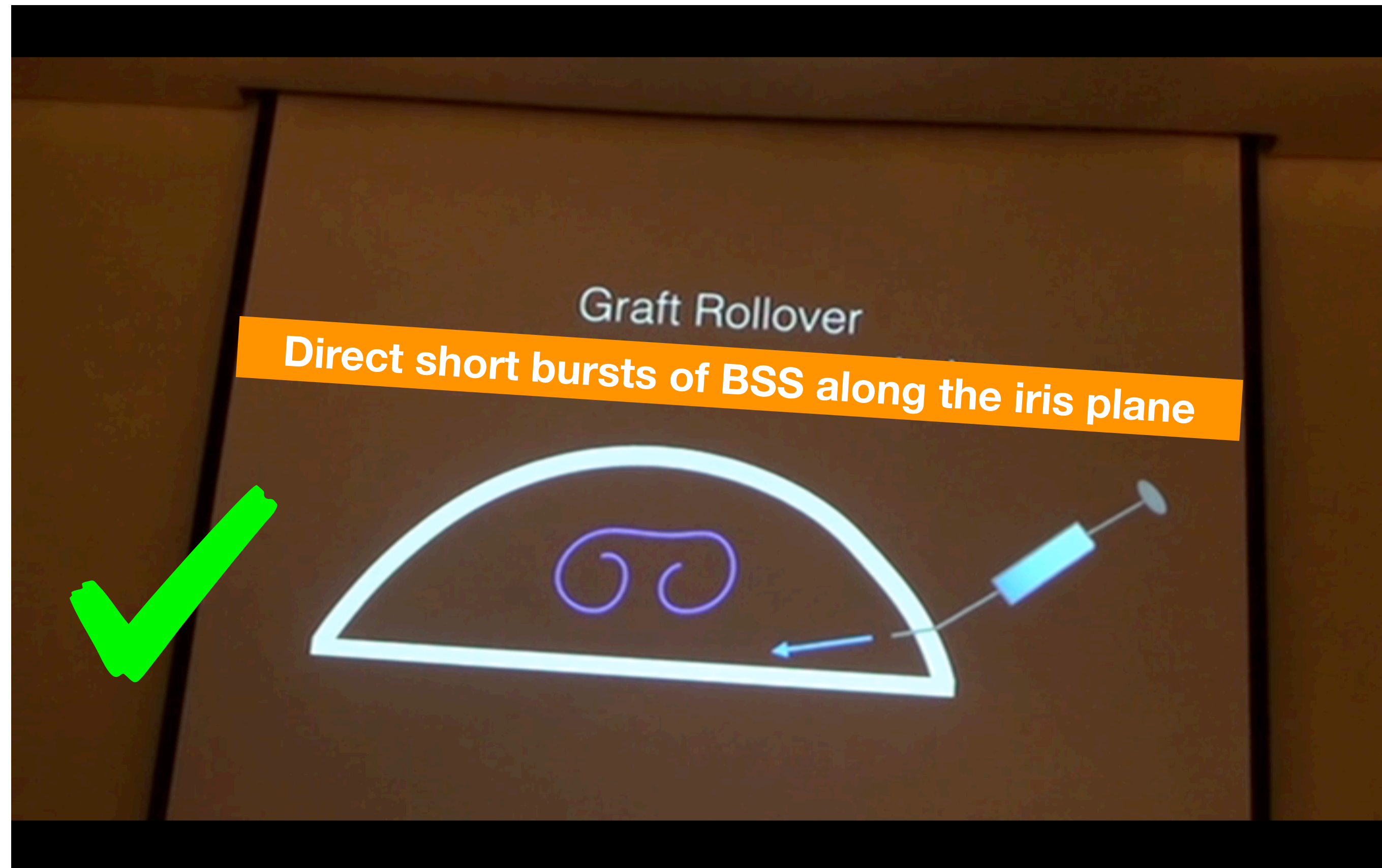
ROLLING OVER INVERTED GRAFT



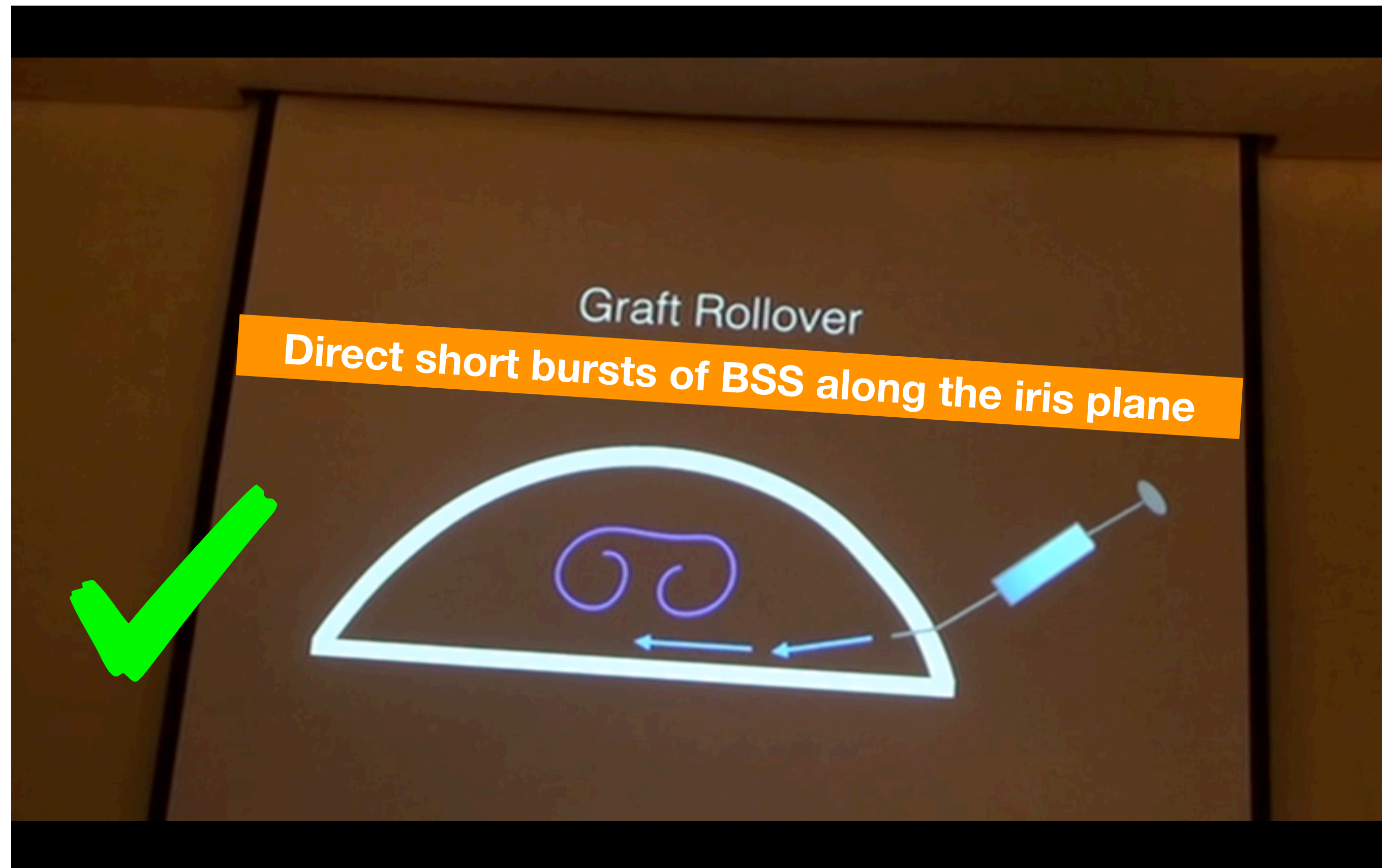
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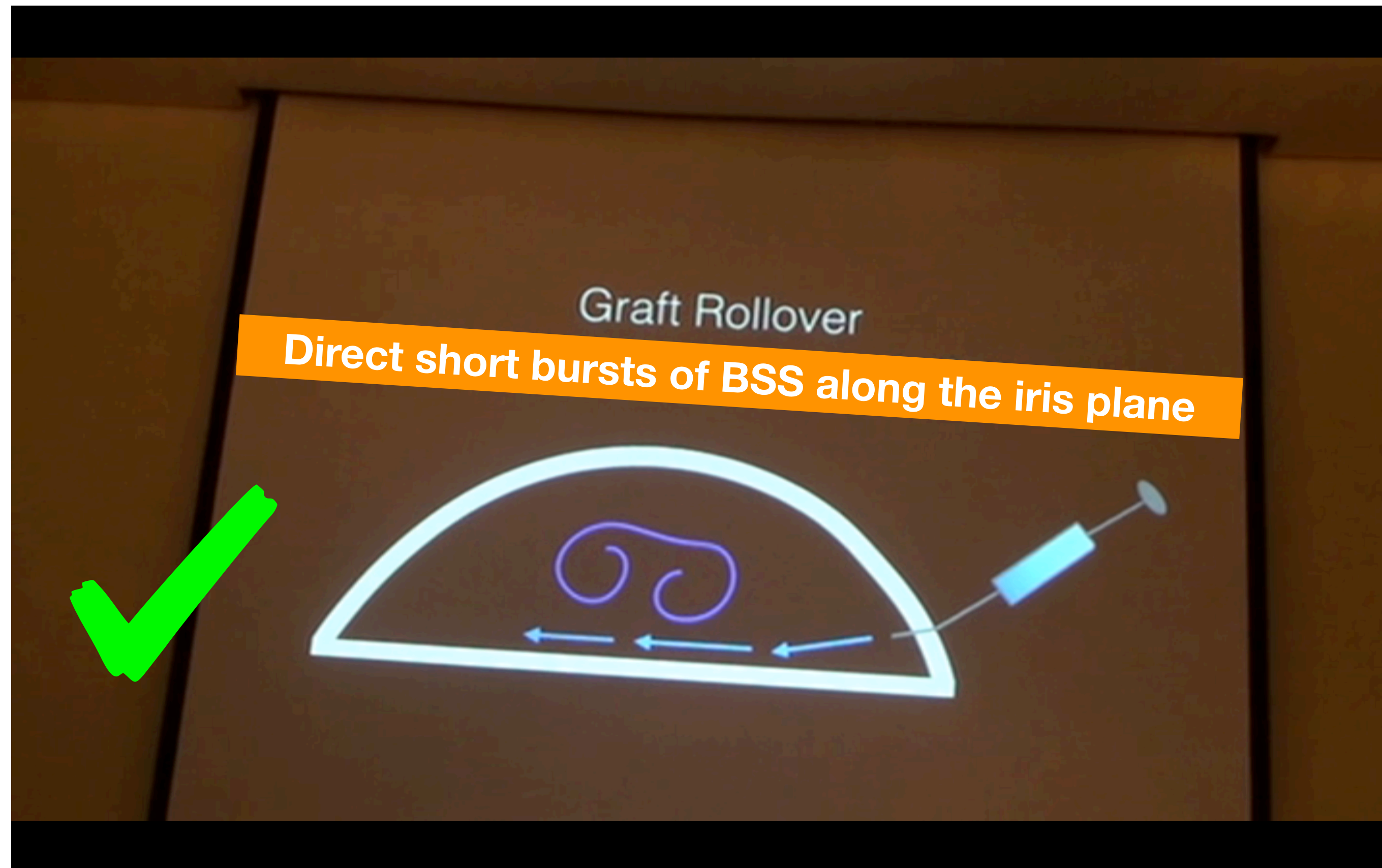
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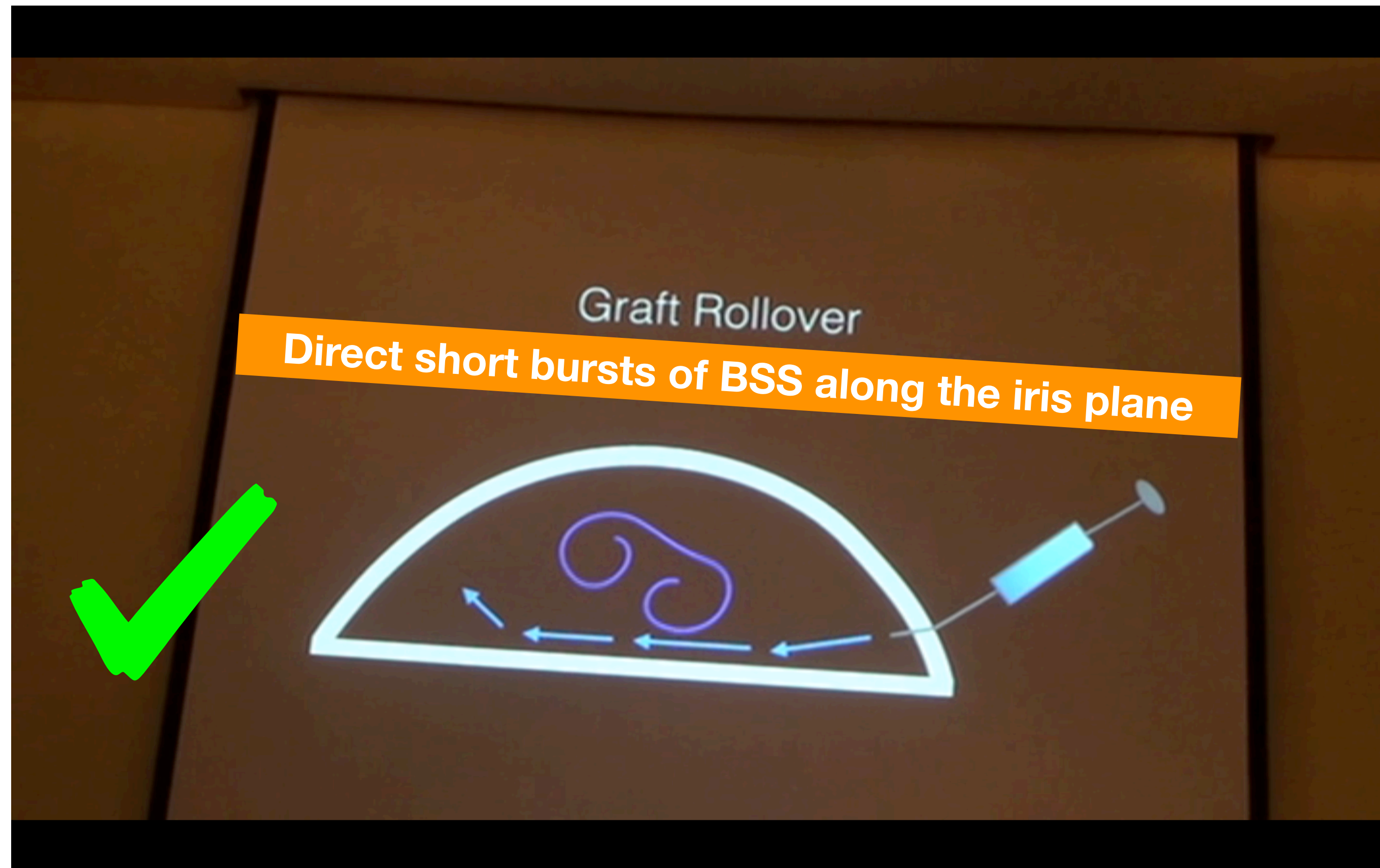
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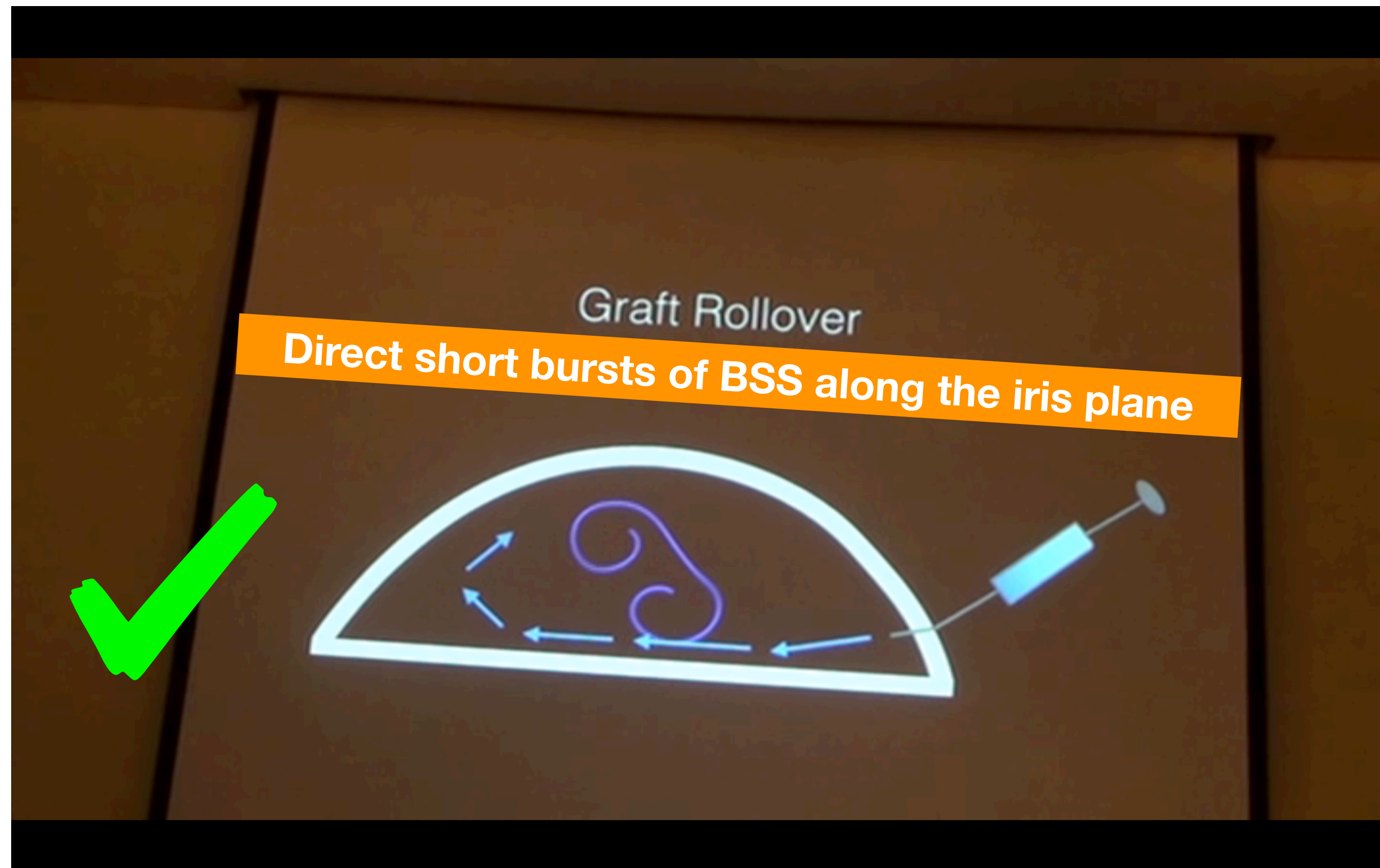
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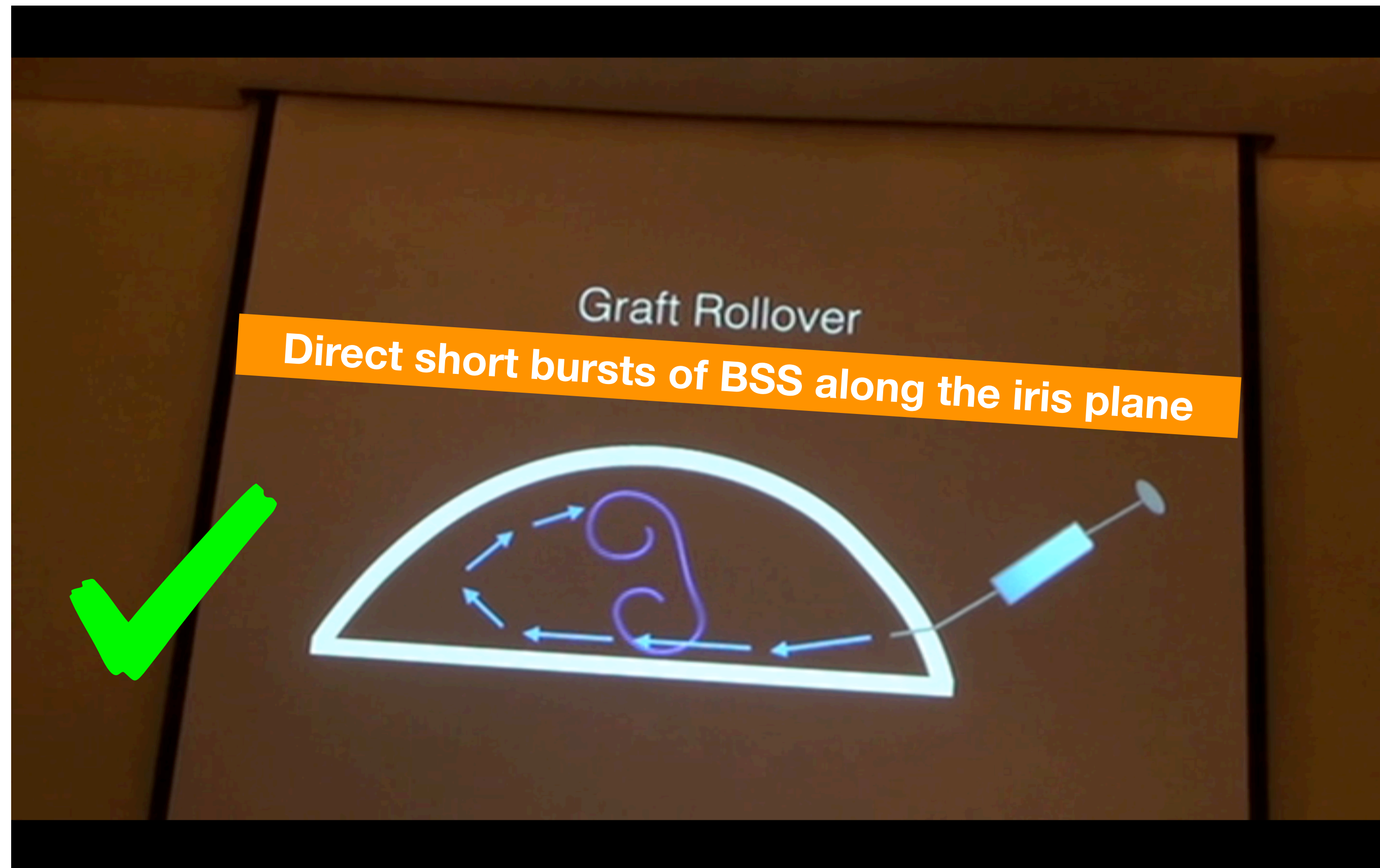
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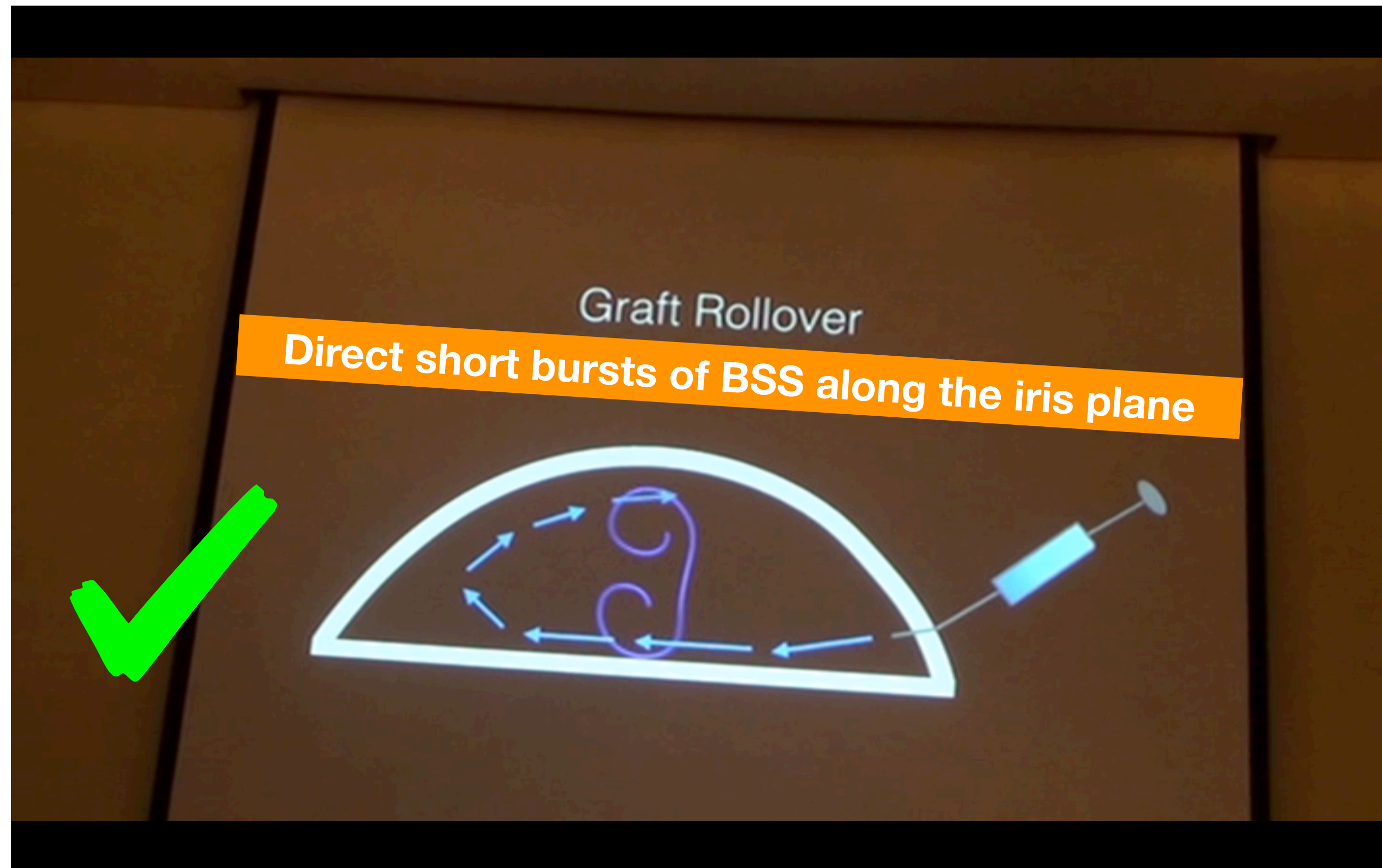
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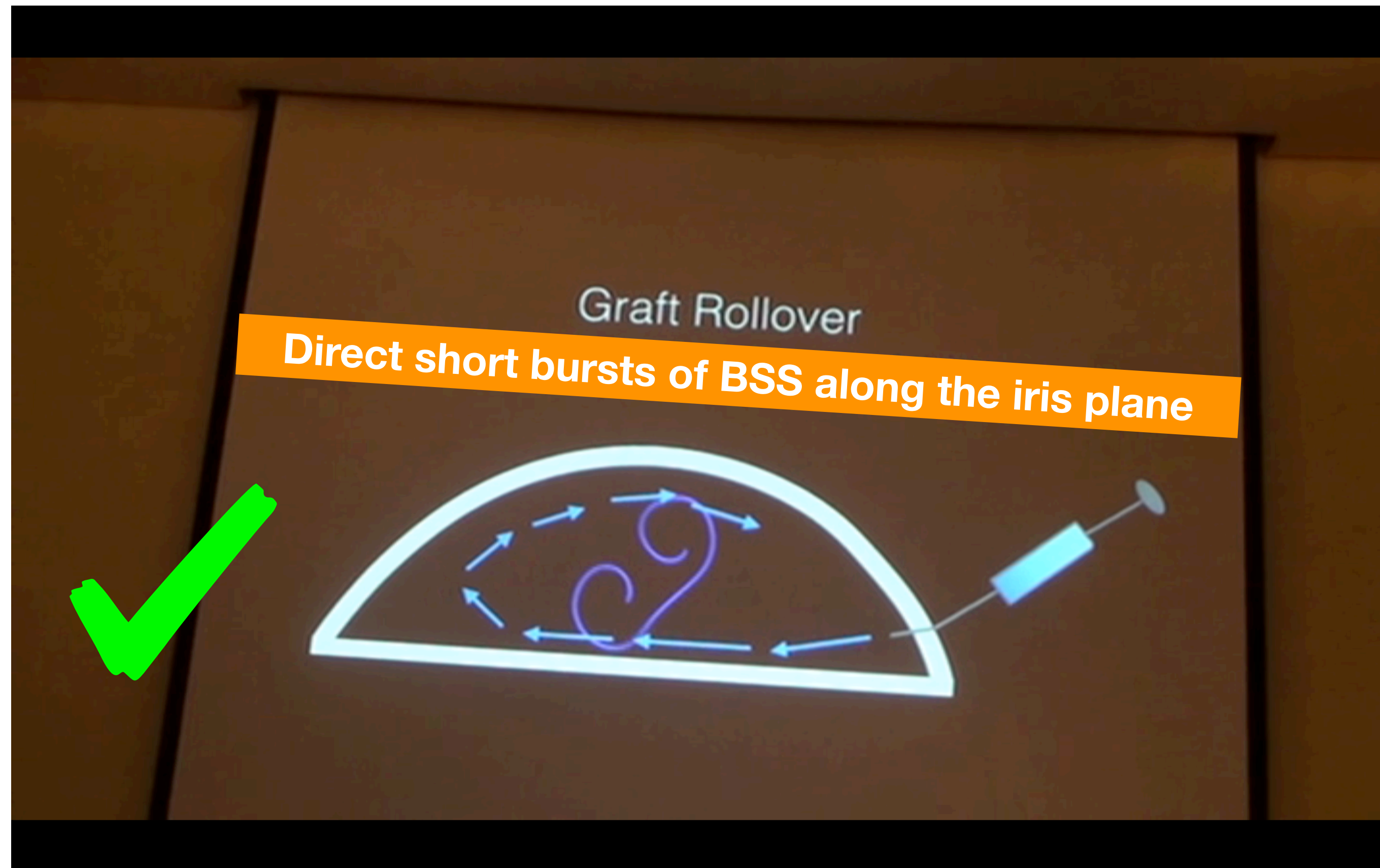
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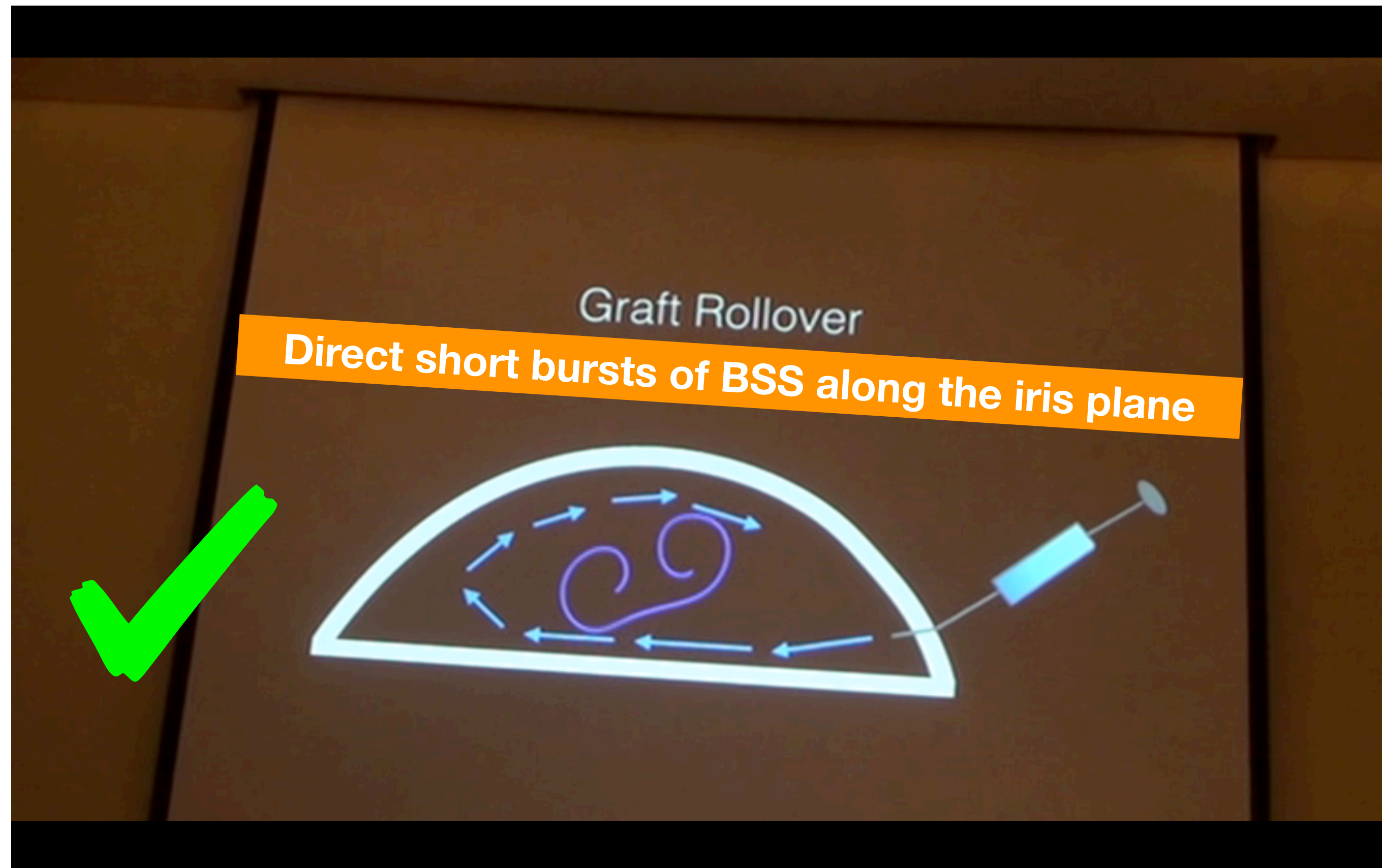
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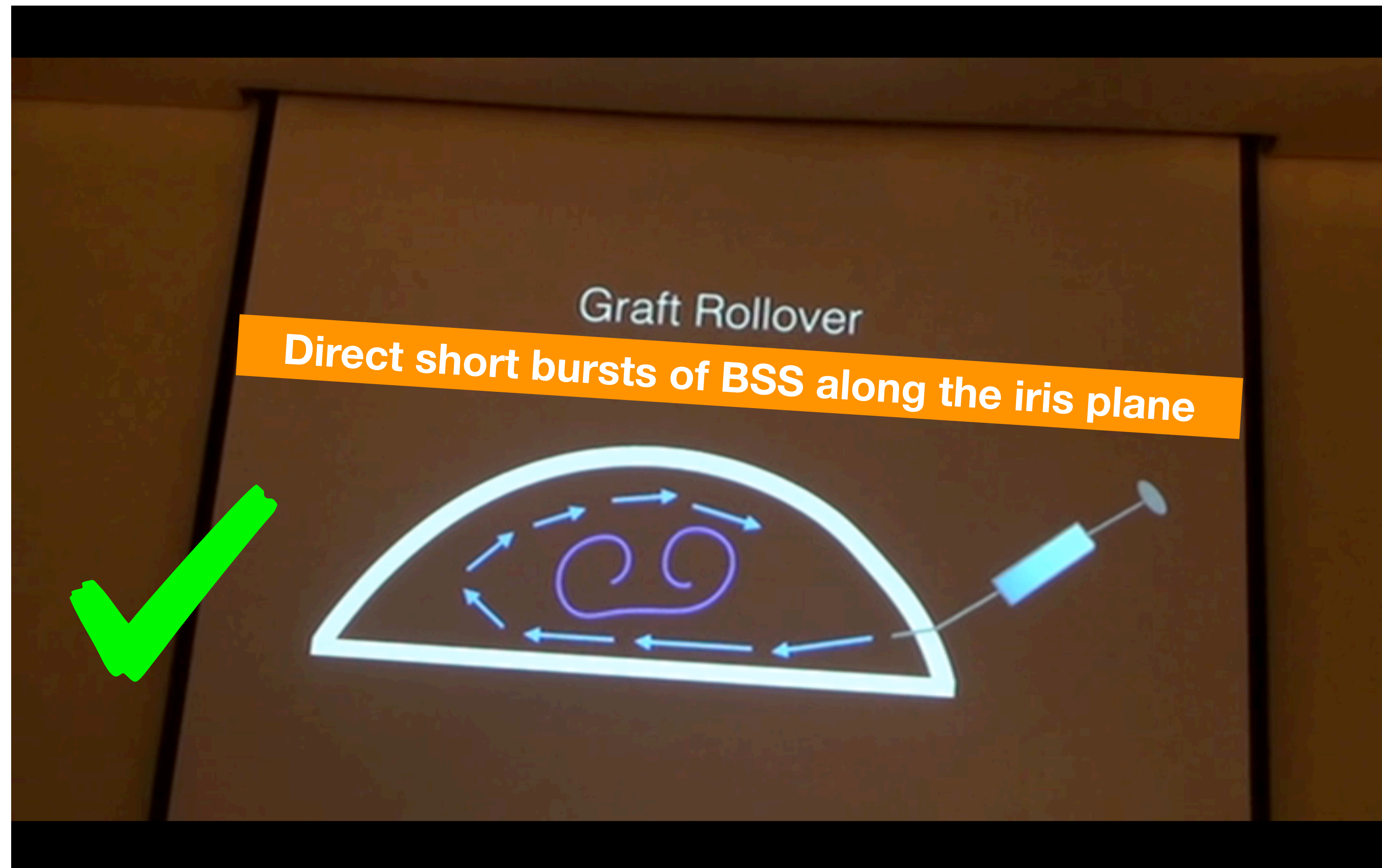
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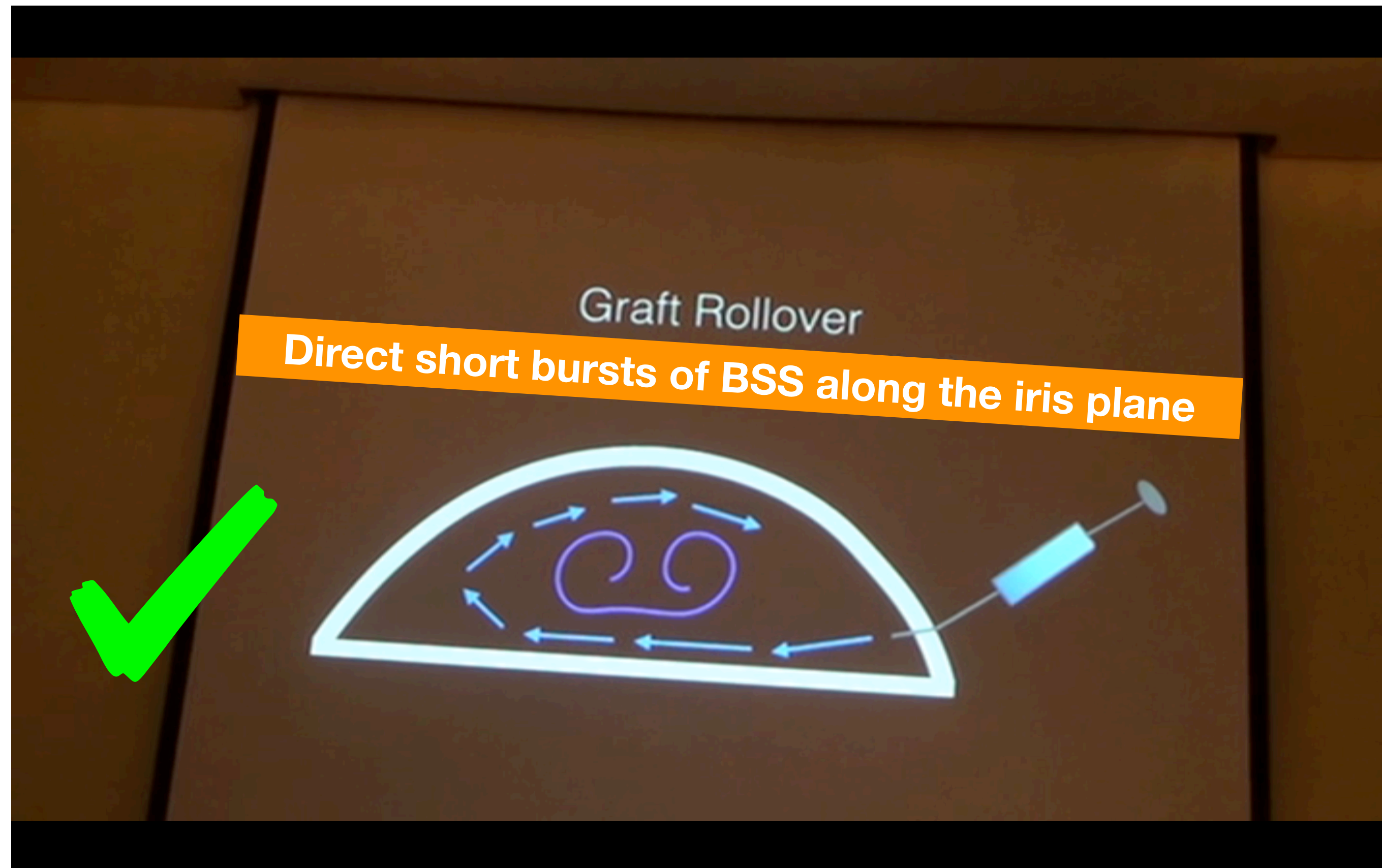
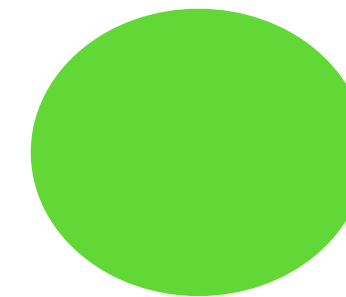
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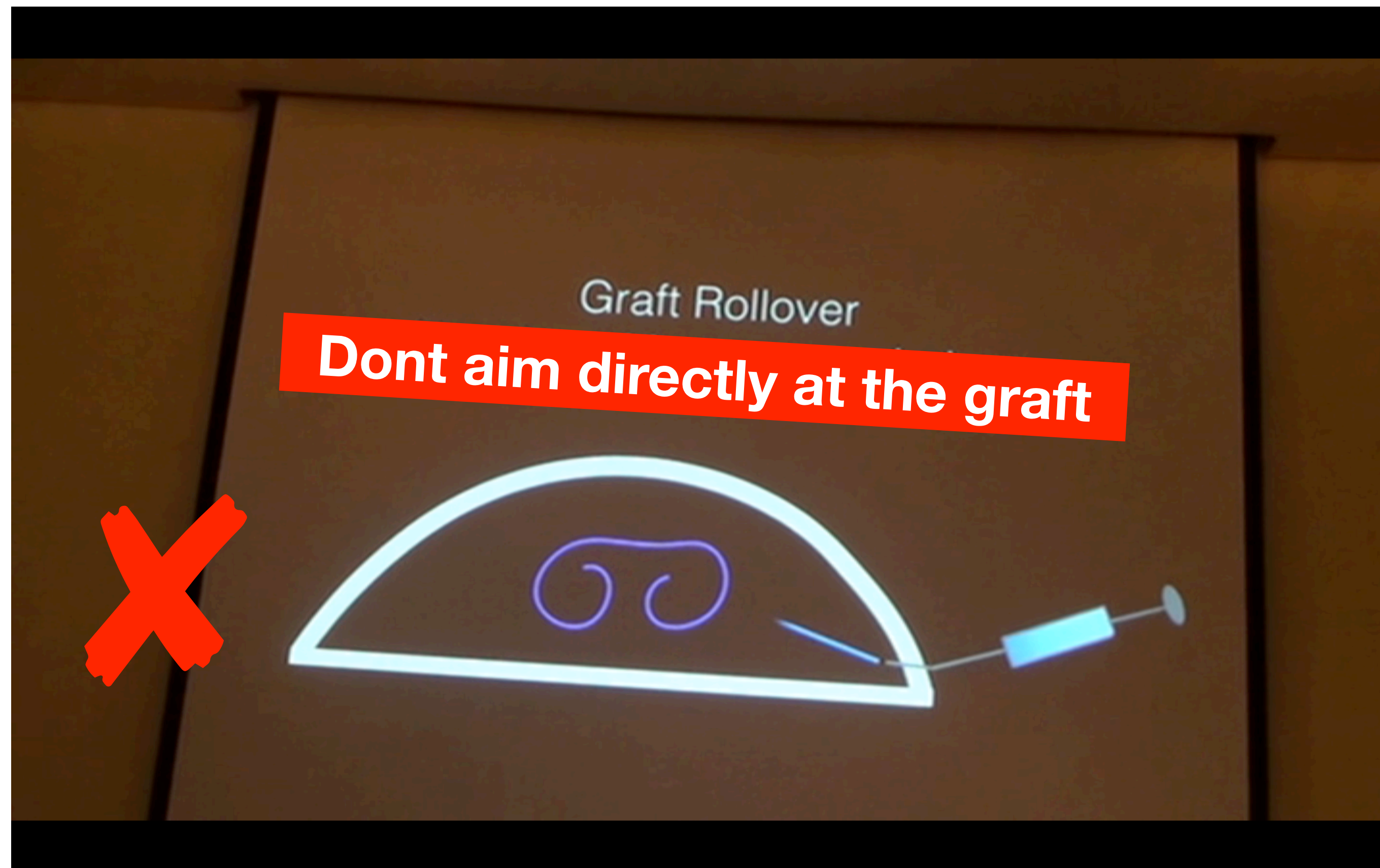
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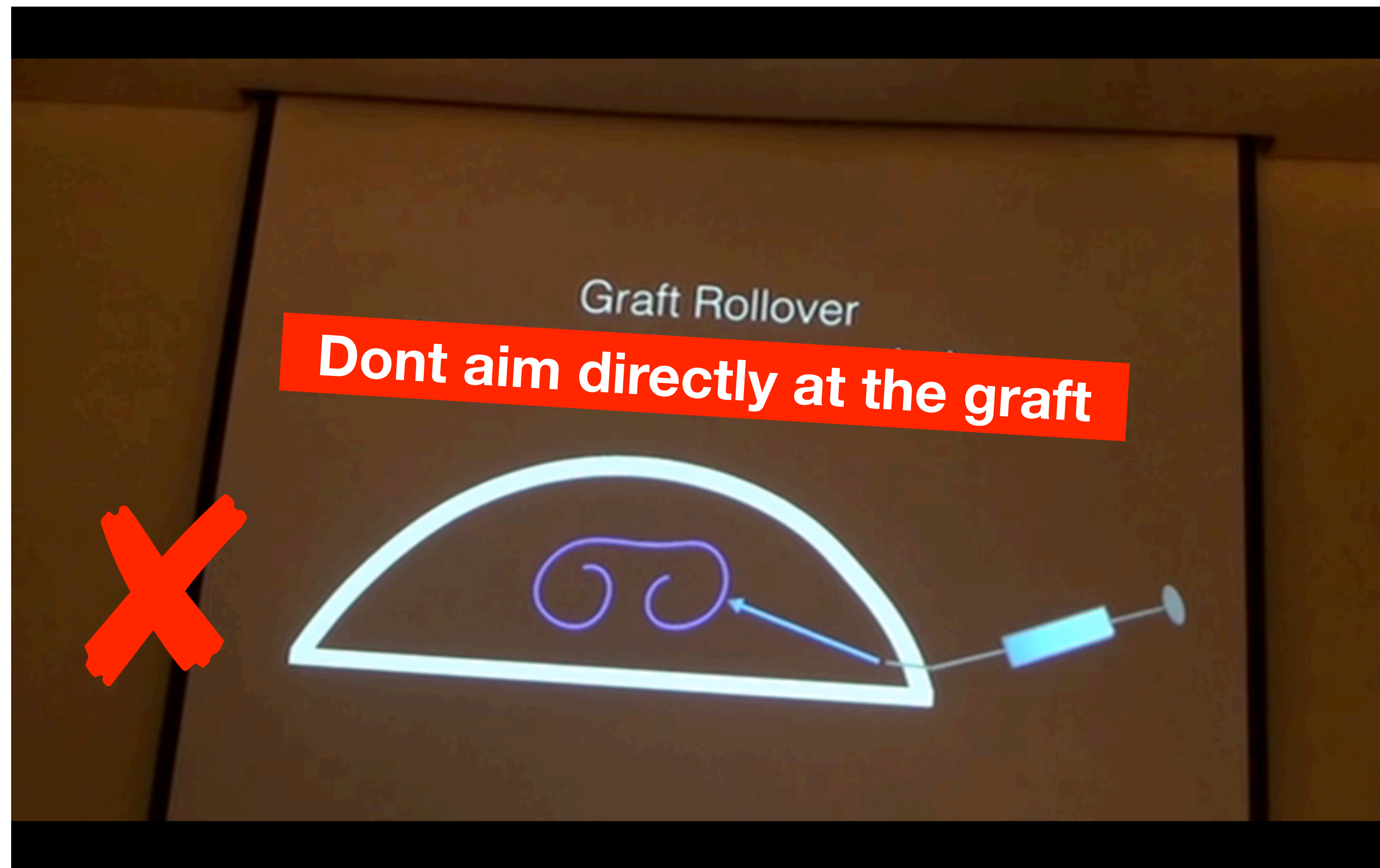
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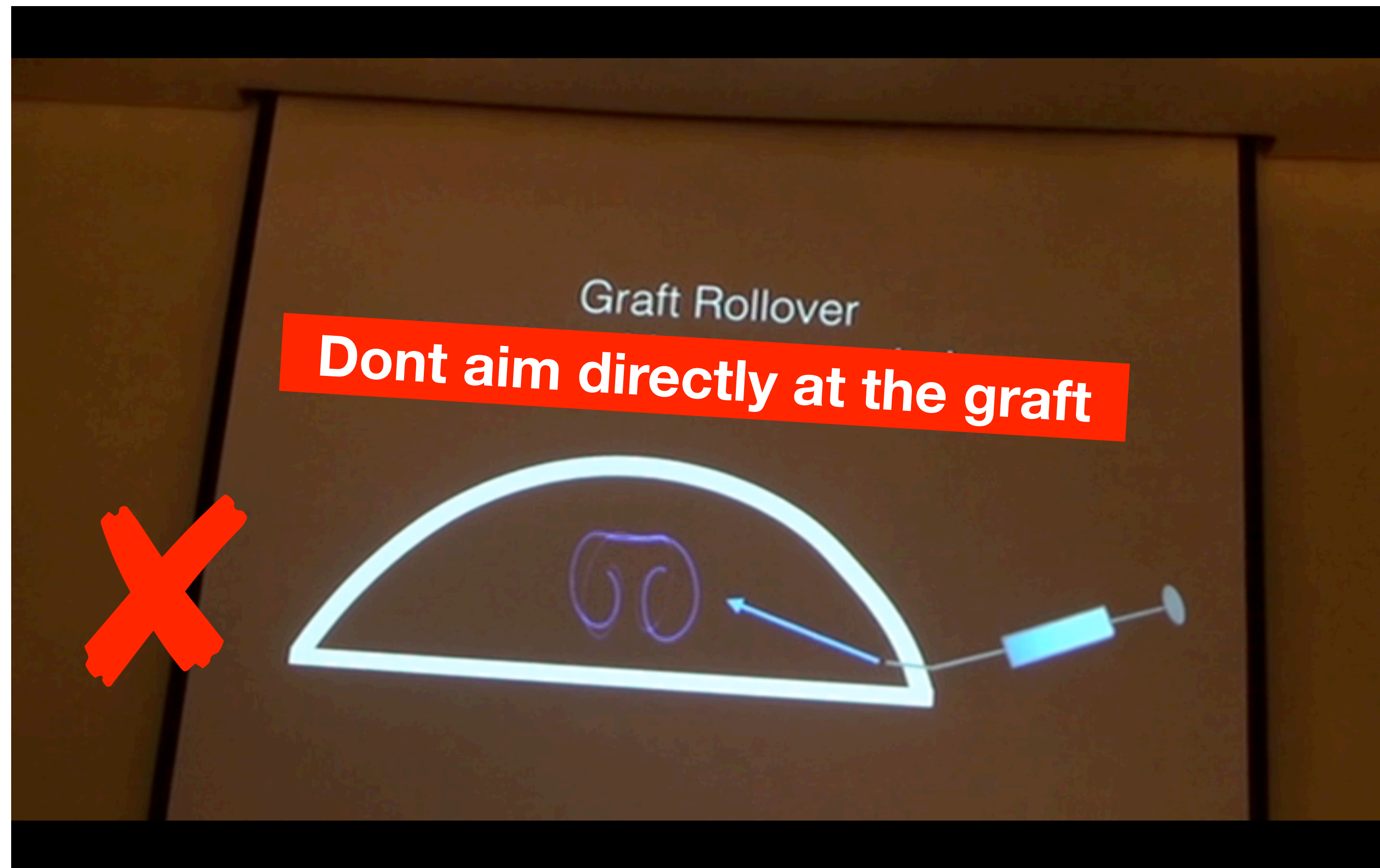
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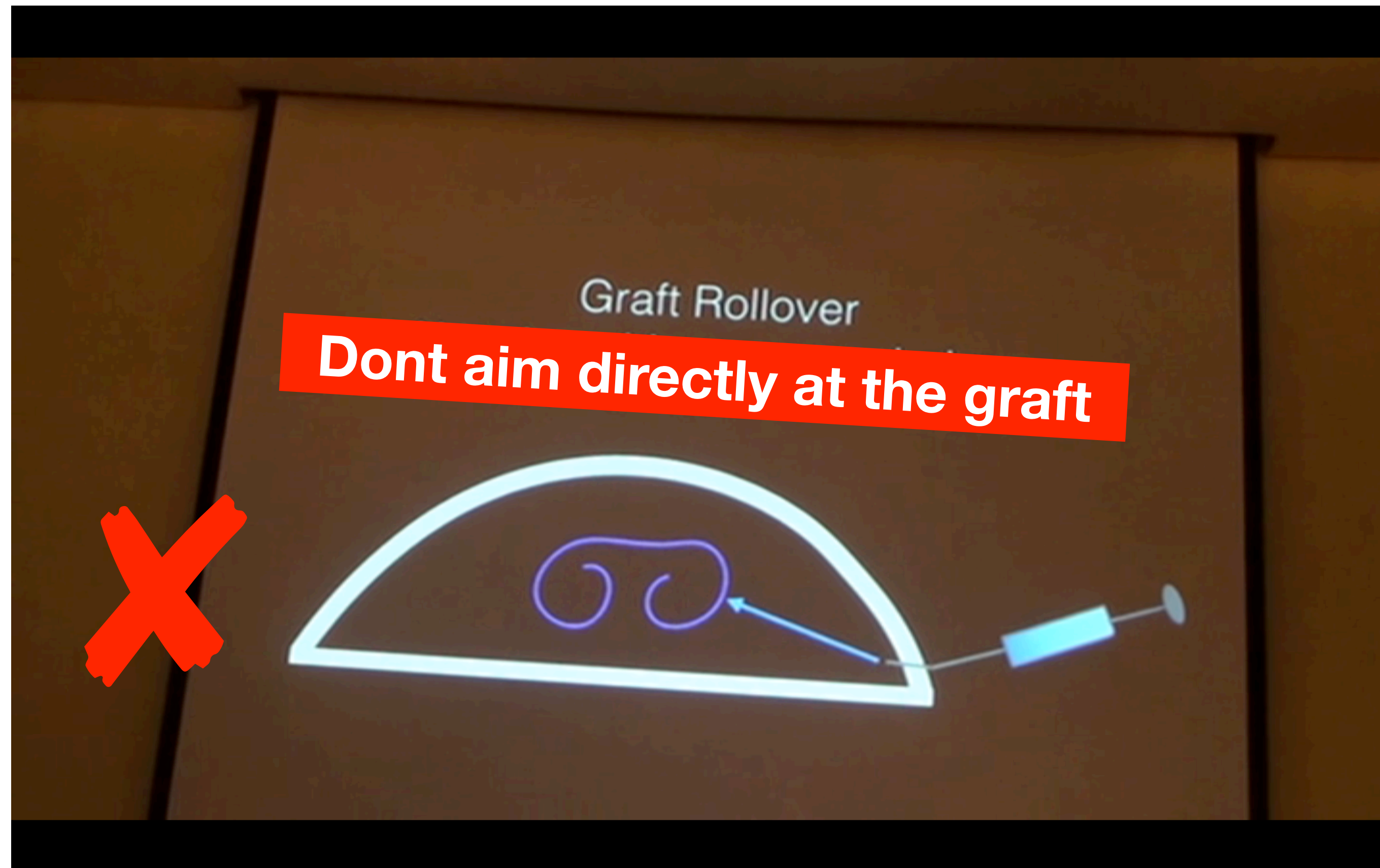
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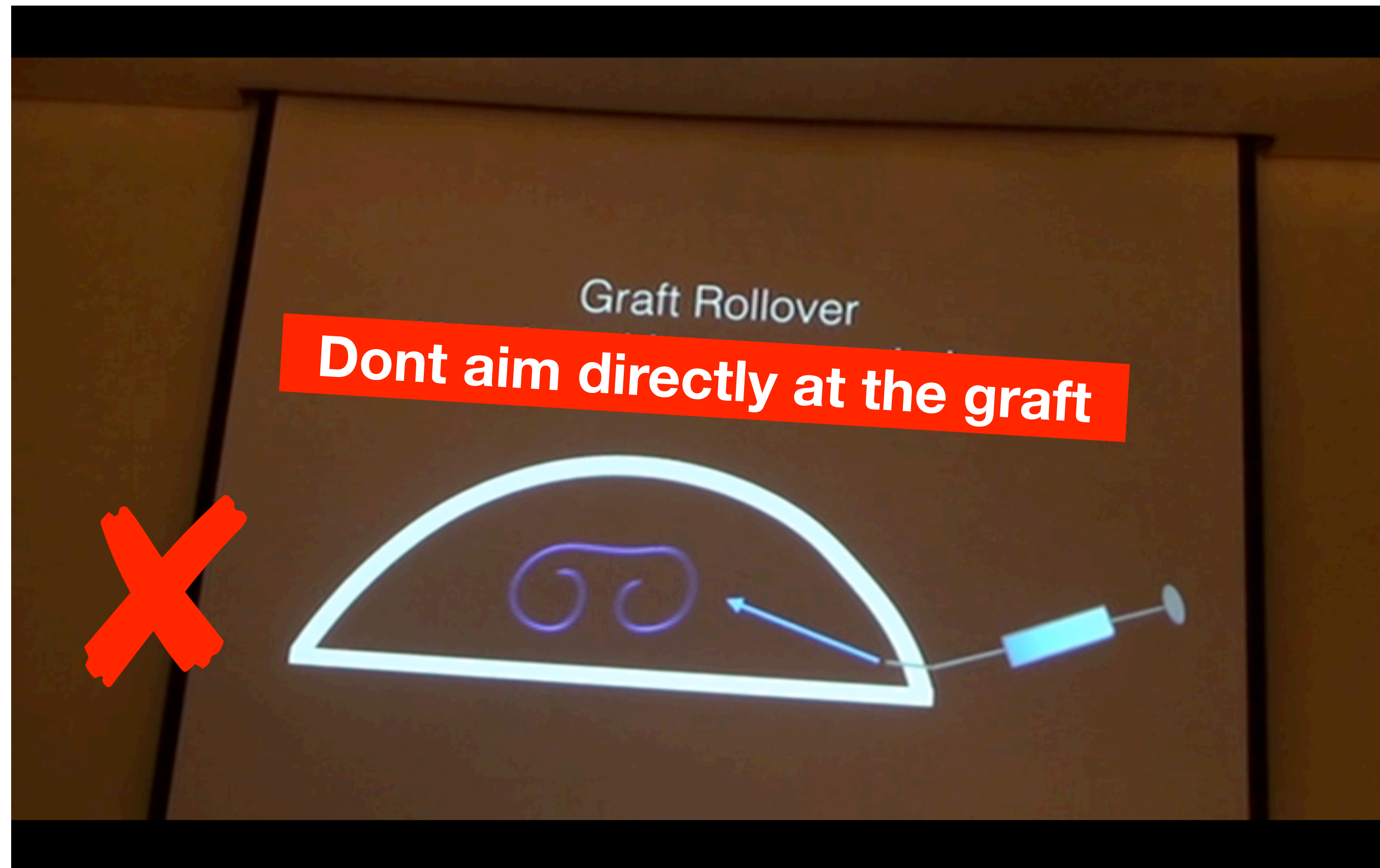
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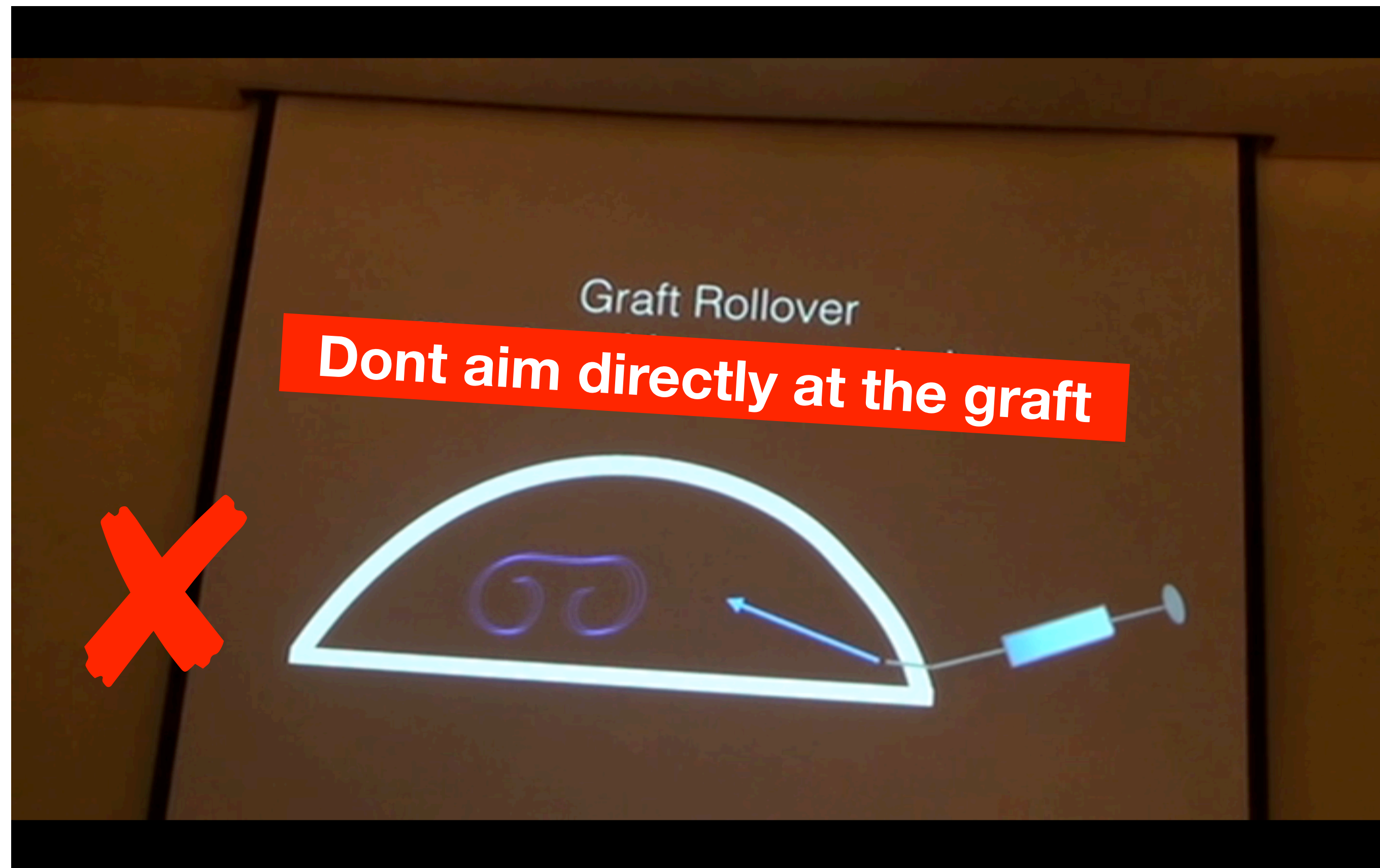
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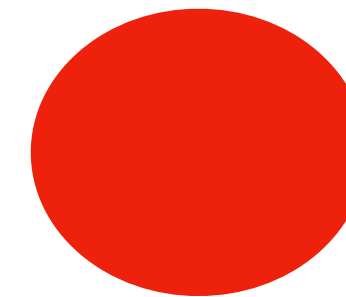
ROLLING OVER INVERTED GRAFT



ROLLING OVER INVERTED GRAFT



ROLLING OVER INVERTED GRAFT



DMEK graft orientation

(S-Stromal stamp)

ADVANTAGE

**THE MOST SURE SIGN
OF CORRECT DMEK GRAFT ORIENTATION**

DISADVANTAGE

**IT SACRIFICES THE STROMA
&
WE CANNOT USE IT FOR DALK**





THANK YOU

See you next year

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