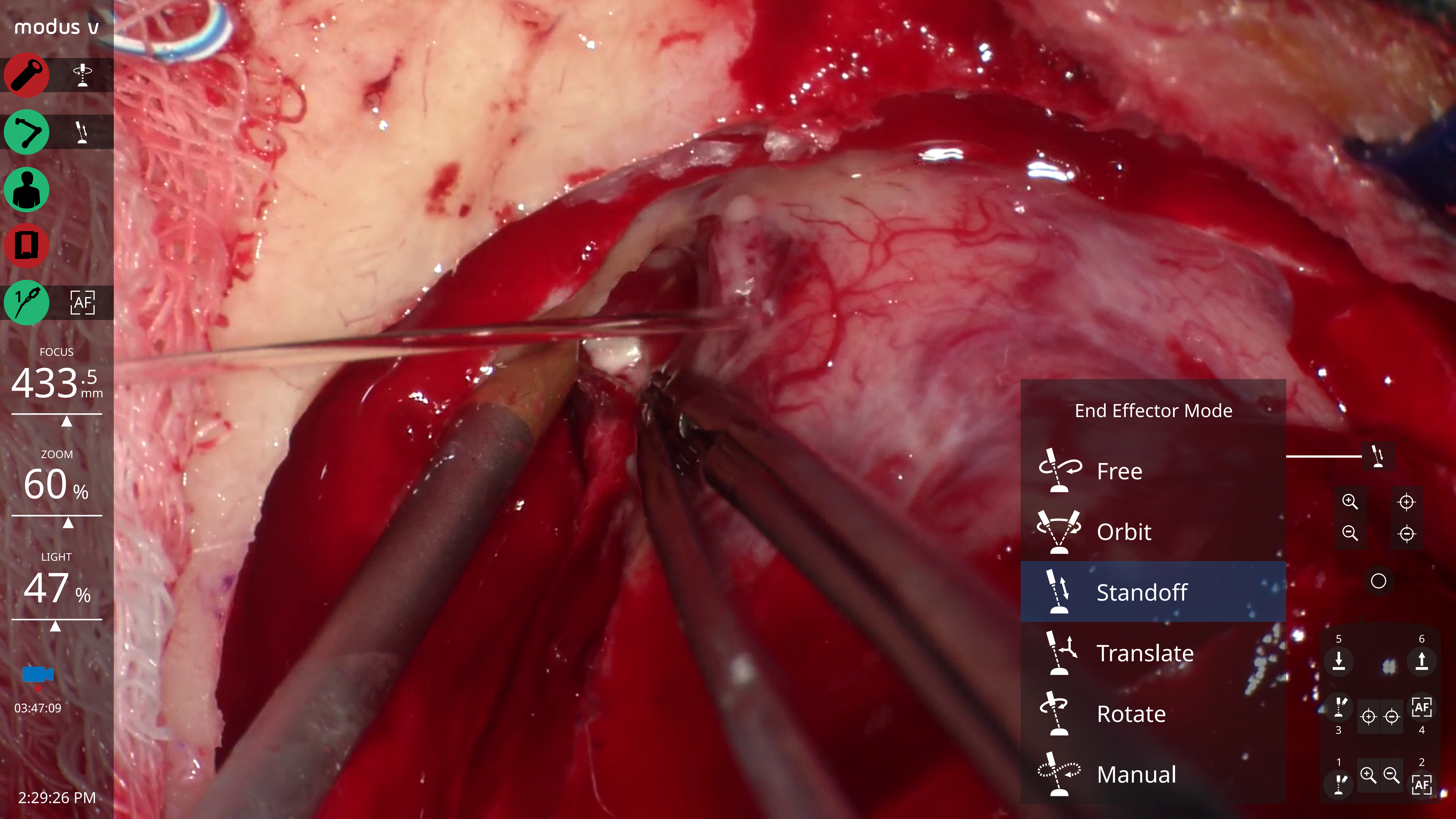


Modus V

Surgical Overlay Concept

Current Overlay



modus v



FOCUS
433.5 mm

ZOOM
60 %

LIGHT
47 %



03:47:09

2:29:26 PM

End Effector Mode

- Free
- Orbit
- Standoff**
- Translate
- Rotate
- Manual

5 ↓

6 ↑

3 [AF] 4

1 [AF] 2



New Overlay Concept




Zoom 50%


Focus 271 mm

Light 40%

Depth 39 mm

Mode  

Tool   

Alignment 

Camera Preset

5 Colour Boost

Position

4 17:29 090718

The overlay elements are modular which means some can be hidden, if desired

Zoom, Focus, Light, Depth of Field settings

Arm Mode


Tracked Tools


Tracked Tool Alignment

Camera Presets

Memory Positions

Sample notifications

 Suction 2 tool is not visible.


 Memory position saved.

REC 3:47:09



80% 5 Hours




Recording time, voice control battery level





15:17:42 FRI JUL 13

 modus v




Date, time, branding


5  6 

3    4

1    2 


Multi-function pedal button mapping









Zoom 50%
Focus 271 mm
Light 40%
Depth 39 mm
Mode 
Tool 
Alignment 
Camera Preset
5 Colour Boost
Position
4 17:29 090718

 Suction 2 tool is not visible.

 Memory position saved.

REC 3:47:09
80% 5 Hours

15:17:42 FRI JUL 13
 modus v


5  6 
3   
1   2 


Zoom 50%


Focus 271 mm

Light 40%

Depth 39 mm

Mode 

Tool 

Alignment 

Camera Preset

5 Colour Boost

Position


4 17:29 090718



Auto-focus linked to port with pointer alignment set to axis and rotation





REC 3:47:09





80% 5 Hours




15:17:42 FRI JUL 13

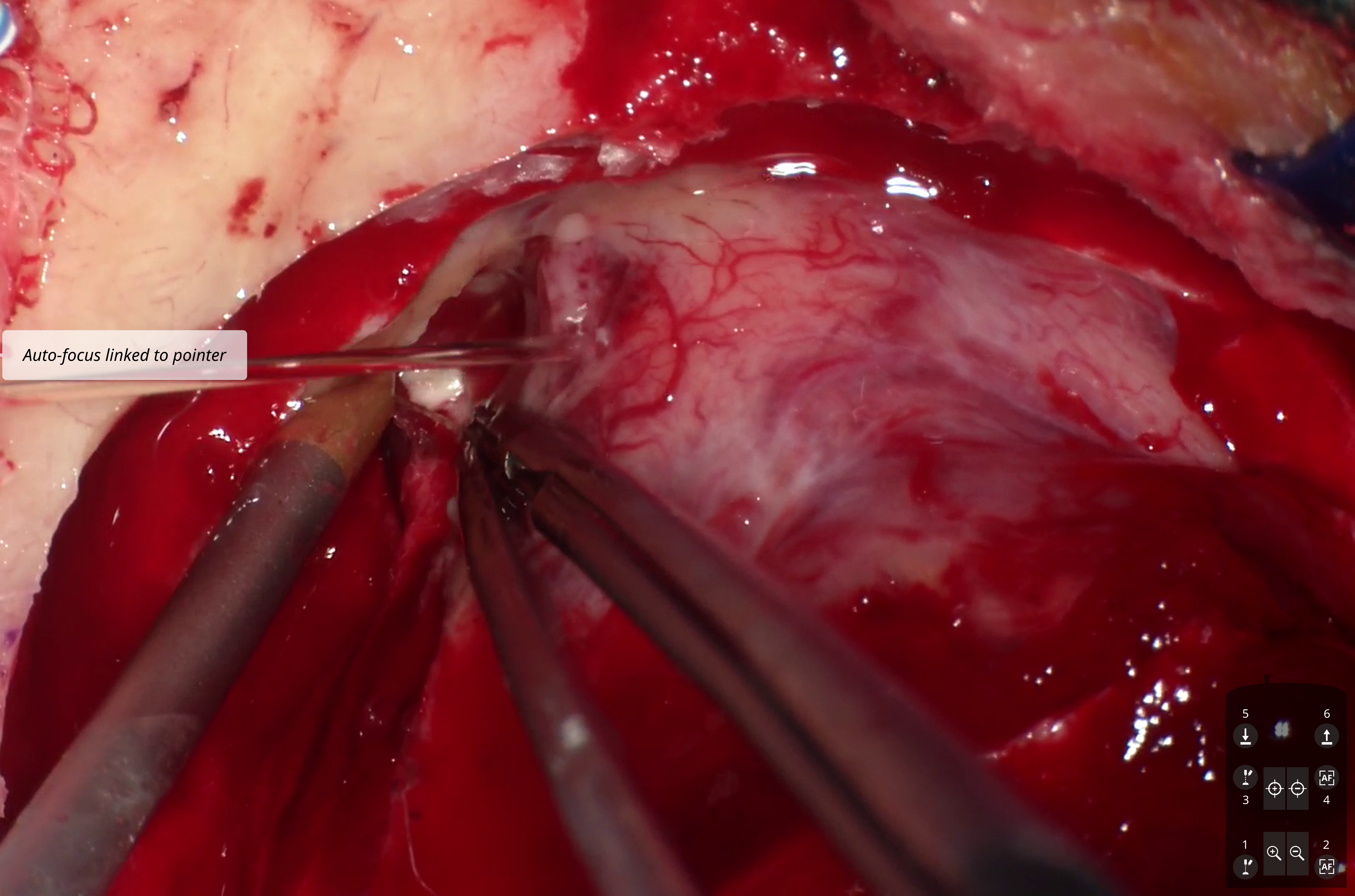
 modus v

5  6 


3    

1    2 

Zoom 50%
Focus 271 mm
Light 40%
Depth 39 mm
Mode 
Tool 
Alignment 
Camera Preset
5 Colour Boost
Position
4 17:29 090718



Auto-focus linked to pointer

REC 3:47:09
80% 5 Hours
15:17:42 FRI JUL 13


5 6
↓ ↑
3 4
1 2
↑ ↓
AF AF

Trigger Menus

Trigger menus are a proposed new feature for the CAS-lite environment.


It's desirable to give the surgeon direct control over many frequently-used Modus V functions that, currently, can only be accessed using the touchscreen user interface. The new voice control feature will accomplish this, but an alternative means of accessing these functions may prove beneficial, especially if a user is unable or unwilling to use voice control.


Zoom **50%**


Focus **271 mm**

Light **40%**

Depth **39 mm**

Mode 

Tool 


Alignment 


Camera Preset


5 Colour Boost


Position


4 17:29 090718


 Free

 Orbit

 Standoff

 Translate

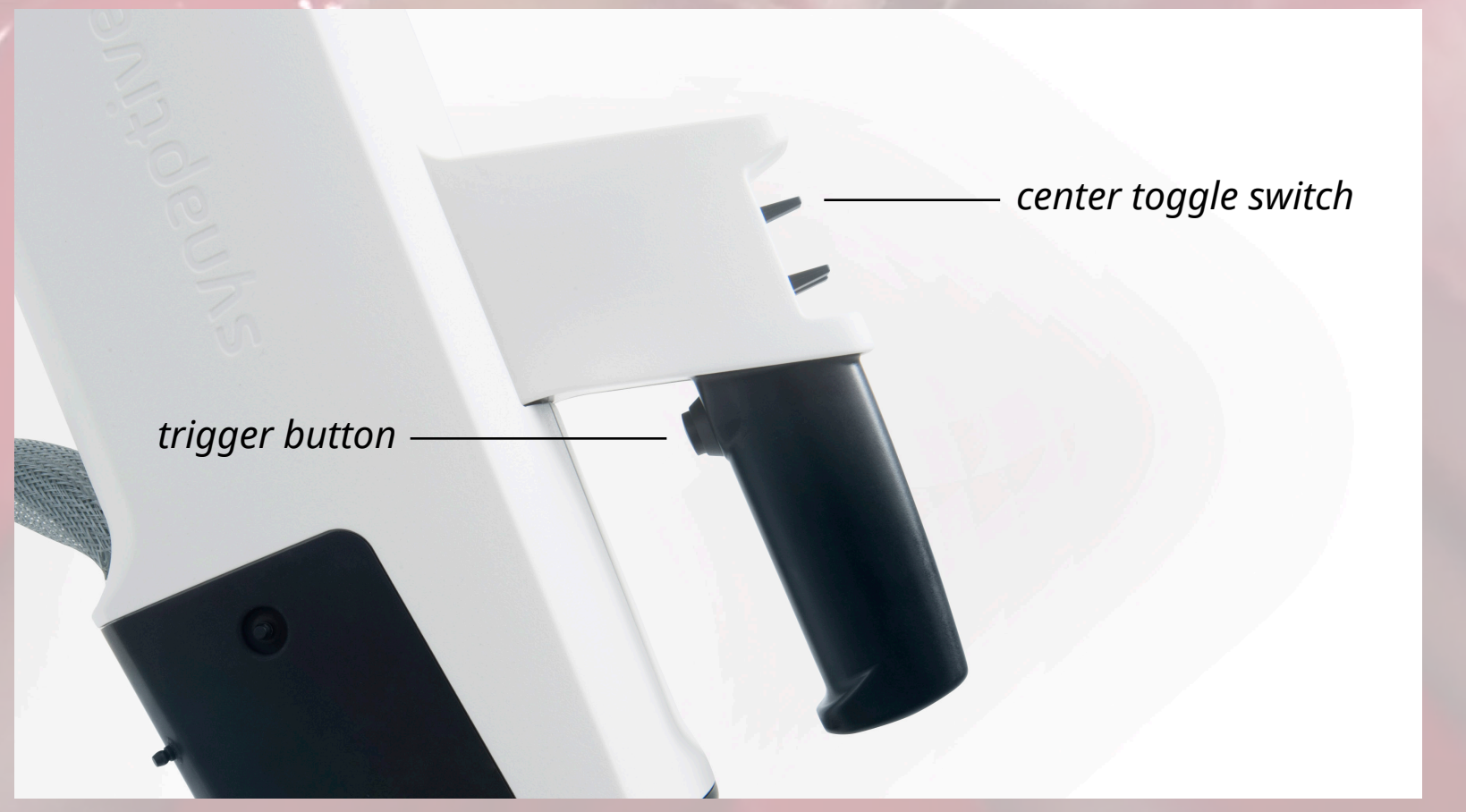
 Rotate

 Manual

< BACK

Actuating the end effector center toggle switch (in either direction) activates trigger menus, currently: Arm Mode, Tracked Tool, Alignment, Camera Preset, and Memory Position.


If no switches are actuated at this point, trigger submenus will disappear after a few seconds.









REC 3:47:09




80% 5 Hours

15:17:42 FRI JUL 13



5   6

3     4

1   2 

Zoom 50%
Focus 271 mm
Light 40%
Depth 39 mm

Mode

Tool

Alignment

Camera Preset
5 Colour Boost

Position
4 17:29 090718

- Pointer
- Port
- Suction 1
- Suction 2
- BACK

Actuating the center toggle switch up or down scrolls through the menu, moving the highlighted field.

REC 3:47:09
80% 5 Hours

15:17:42 FRI JUL 13

modus v

5 6

3 4

1 2

Zoom 50%

Focus 271 mm

Light 40%

Depth 39 mm

Mode

Tool

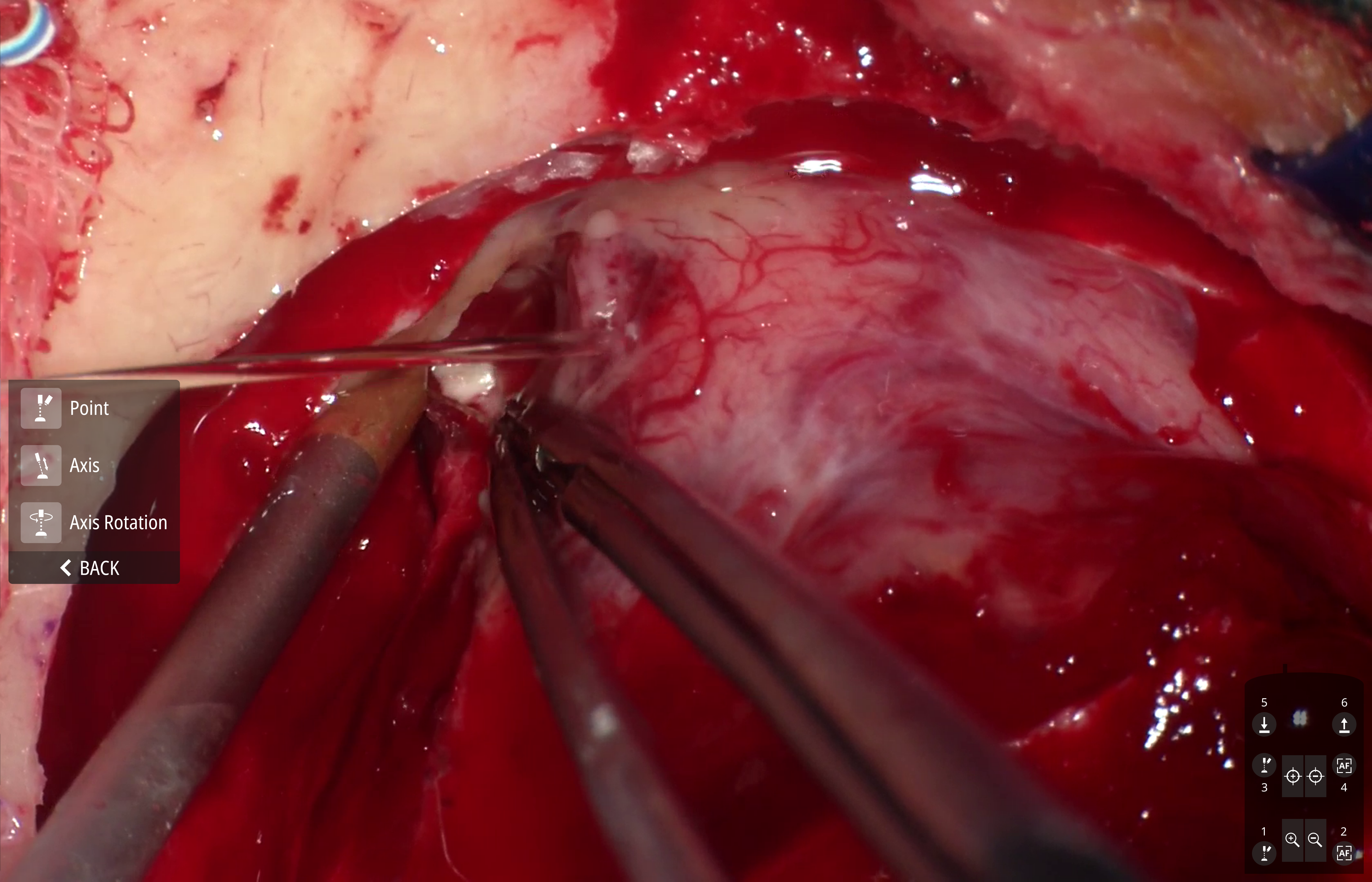
Alignment

Camera Preset

5 Colour Boost

Position

4 17:29 090718



Point

Axis

Axis Rotation

← BACK

REC 3:47:09

80% 5 Hours

15:17:42 FRI JUL 13

modus v

5 6

3 4

1 2

Zoom 50%

Focus 271 mm

Light 40%

Depth 39 mm

Mode

Tool

Alignment

Camera Preset

5 Colour Boost

Position

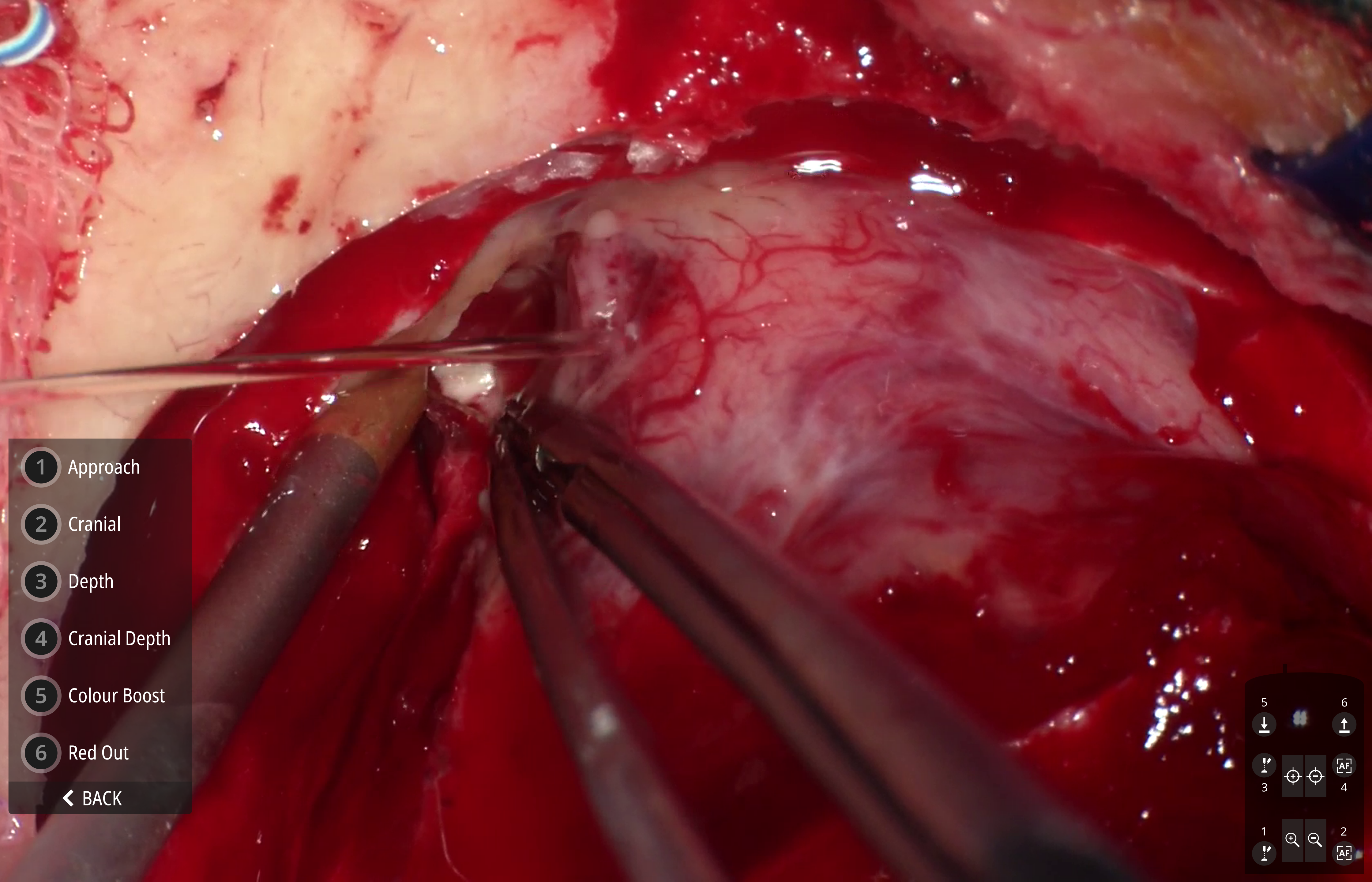
4 17:29 090718

REC 3:47:09

80% 5 Hours

15:17:42 FRI JUL 13

modus v



- 1 Approach
 - 2 Cranial
 - 3 Depth
 - 4 Cranial Depth
 - 5 Colour Boost
 - 6 Red Out
- ← BACK

5 6

3 4

1 2

Zoom 50%
Focus 271 mm
Light 40%
Depth 39 mm

Mode

Tool

Alignment

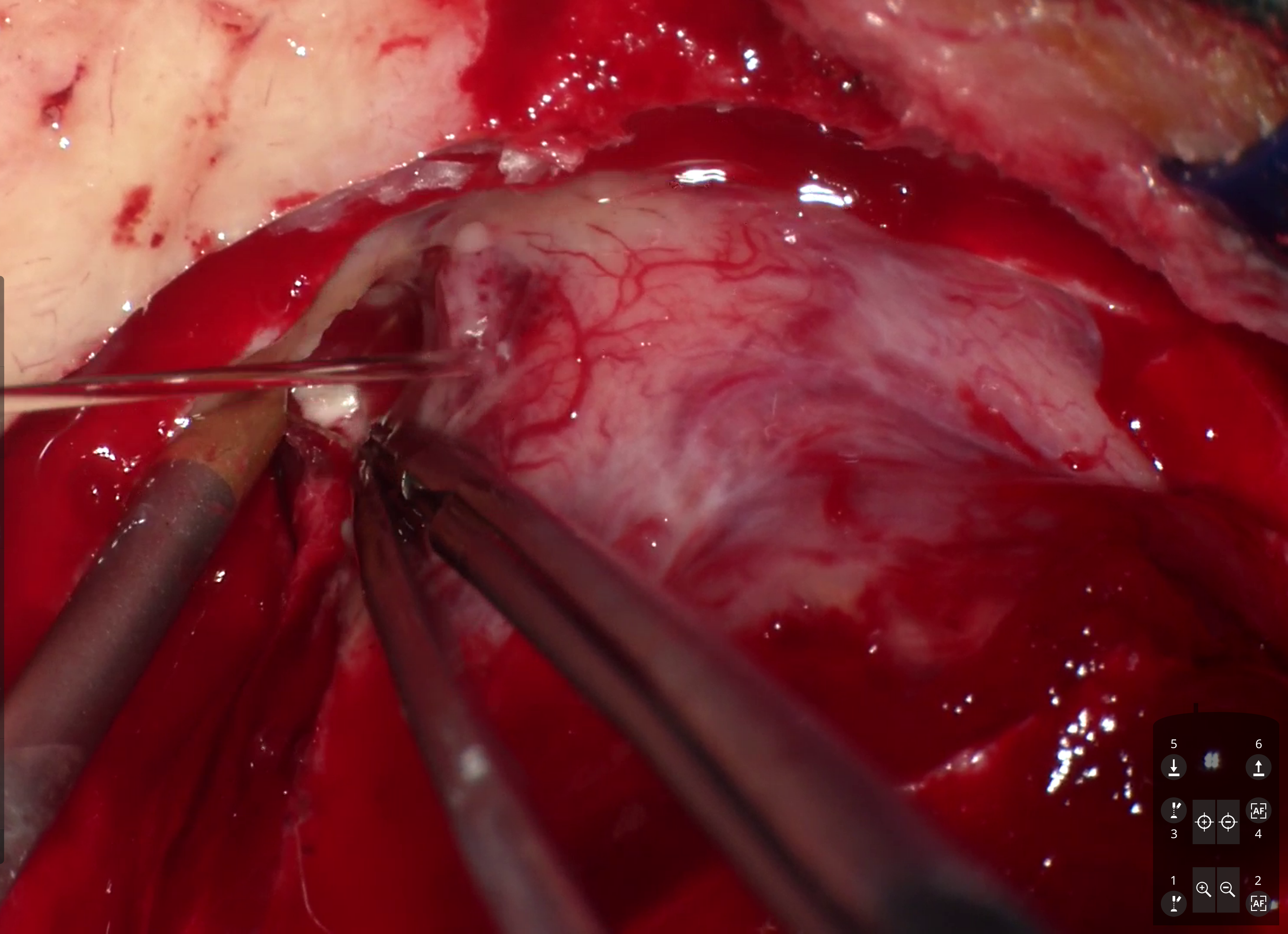
Camera Preset
5 Colour Boost

Position
4 17:29 090718

REC 3:47:09
80% 5 Hours

15:17:42 FRI JUL 13
 modus v

1
2
3
4
5
BACK



5 6
3 4
1 2

Zoom 50%
Focus 271 mm
Light 40%
Depth 39 mm

Mode    Free

Tool     Orbit

Alignment  Standoff

Camera Preset

5 Colour Boost

Position

4 17:29 090718


 Translate




 Rotate





 Manual





< BACK

Clicking the end effector trigger button opens a submenu corresponding to the highlighted field.

REC 3:47:09
80% 5 Hours
15:17:42 FRI JUL 13
 modus v




5   6 

  
3  4

1    2 

Zoom 50%
Focus 271 mm
Light 40%
Depth 39 mm







Mode  

Tool   

Alignment 


Camera Preset
5 Colour Boost








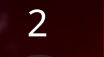
Position
4 17:29 090718

-  Free
-  Orbit
-  Standoff
-  Translate
-  Rotate
-  Manual
- ← BACK


Actuating the center toggle switch up or down scrolls through the submenu.


REC 3:47:09
80% 5 Hours


15:17:42 FRI JUL 13
 modus v

5  6 
3    4
1   2 

Zoom 50%
Focus 271 mm
Light 40%
Depth 39 mm

Mode  

Tool   

Alignment 

Camera Preset

5 Colour Boost

Position


4 17:29 090718



Free
Orbit
Standoff
Translate
Rotate
Manual




← BACK





REC 3:47:09
80% 5 Hours

15:17:42 FRI JUL 13

 modus v

5  6 

3    4

1    2 

Zoom 50%

Focus 271 mm

Light 40%

Depth 39 mm

Mode

Tool

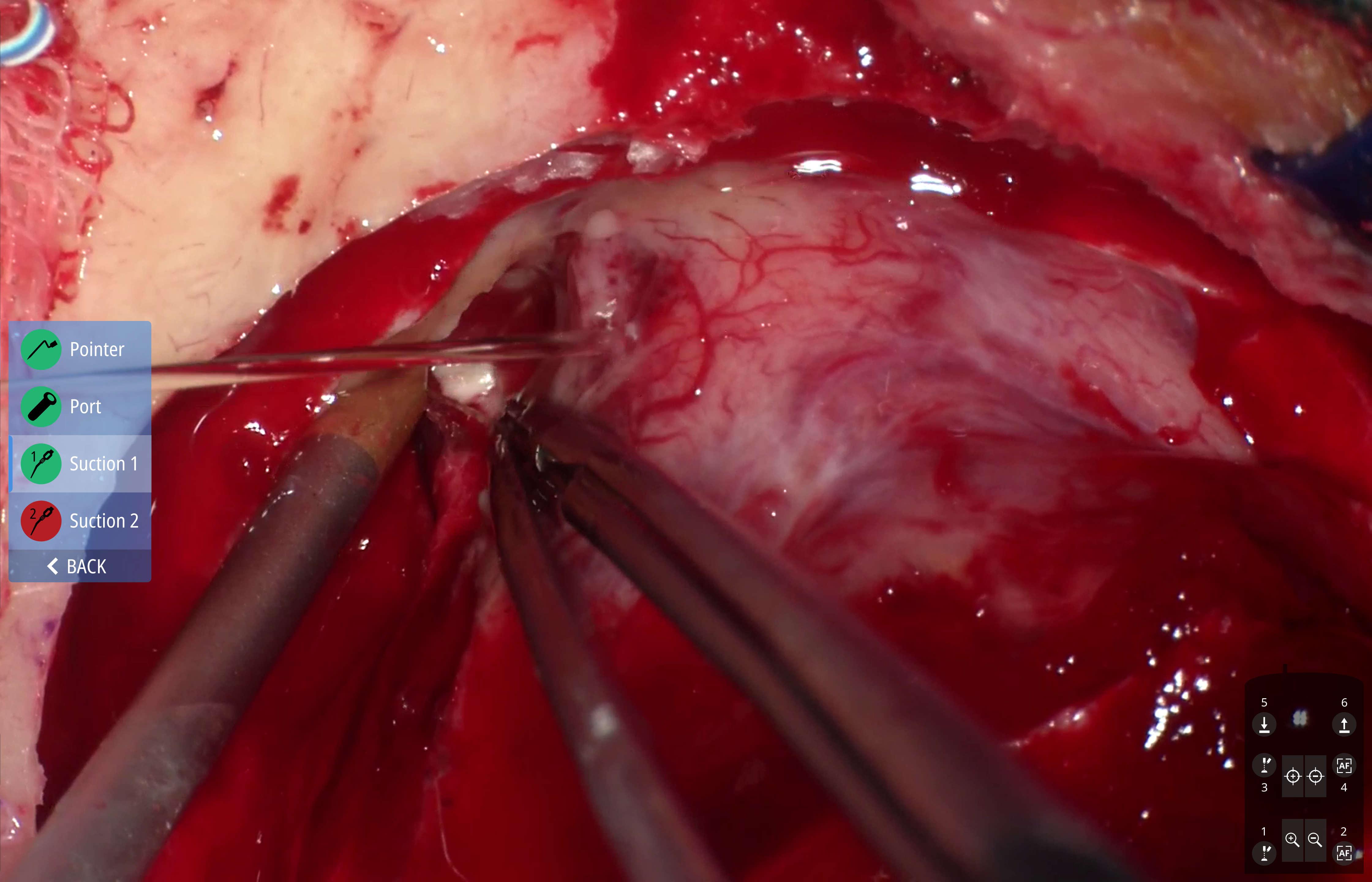
Alignment

Camera Preset

5 Colour Boost

Position

4 17:29 090718



Pointer

Port

Suction 1

Suction 2

BACK

REC 3:47:09

80% 5 Hours

15:17:42 FRI JUL 13

modus v

5 6

3 4

1 2

Zoom 50%

Focus 271 mm

Light 40%

Depth 39 mm

Mode

Tool

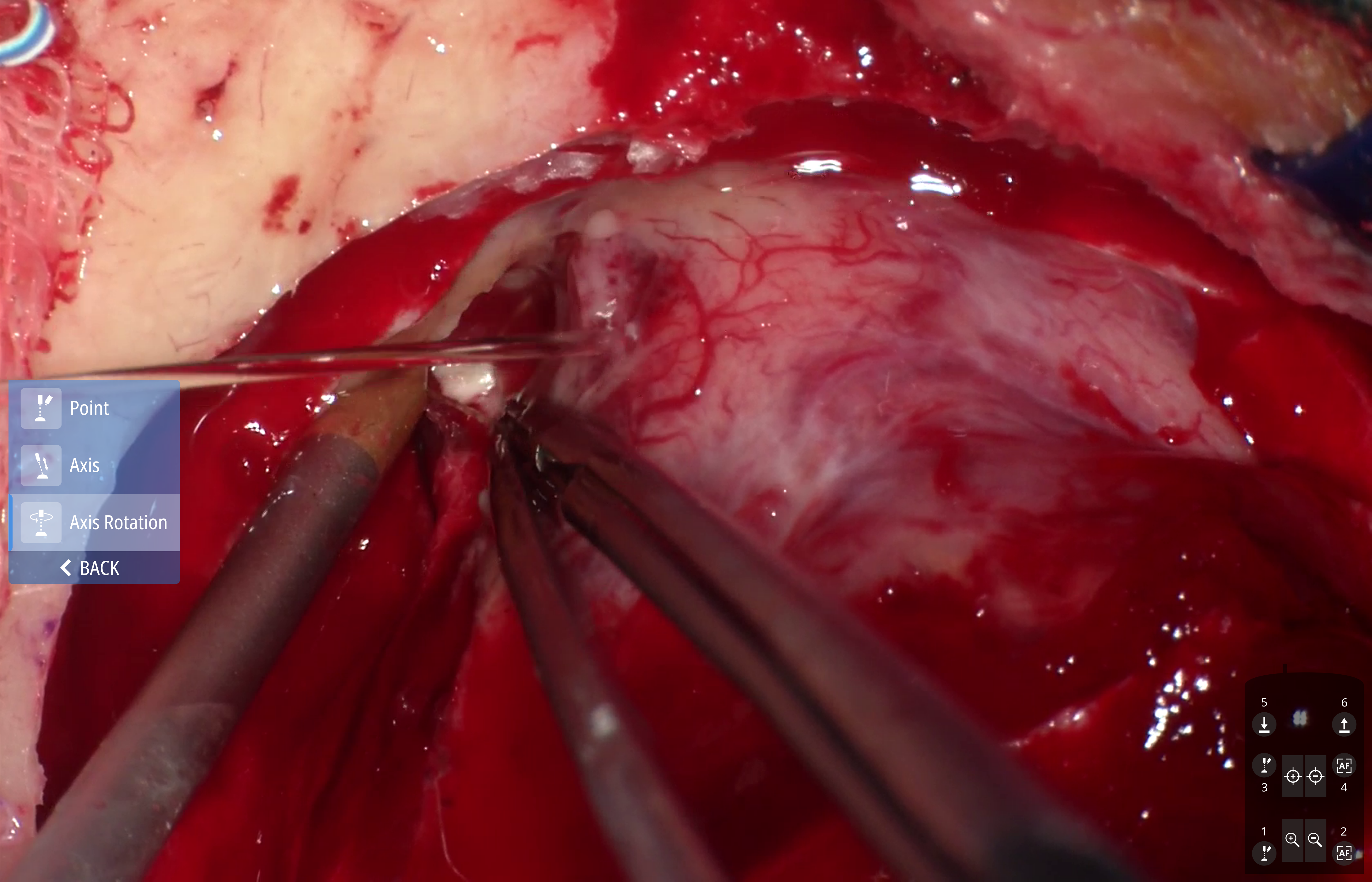
Alignment

Camera Preset

5 Colour Boost

Position

4 17:29 090718



Point

Axis

Axis Rotation

← BACK

REC 3:47:09

80% 5 Hours

15:17:42 FRI JUL 13

modus v

5



6

3

4


1

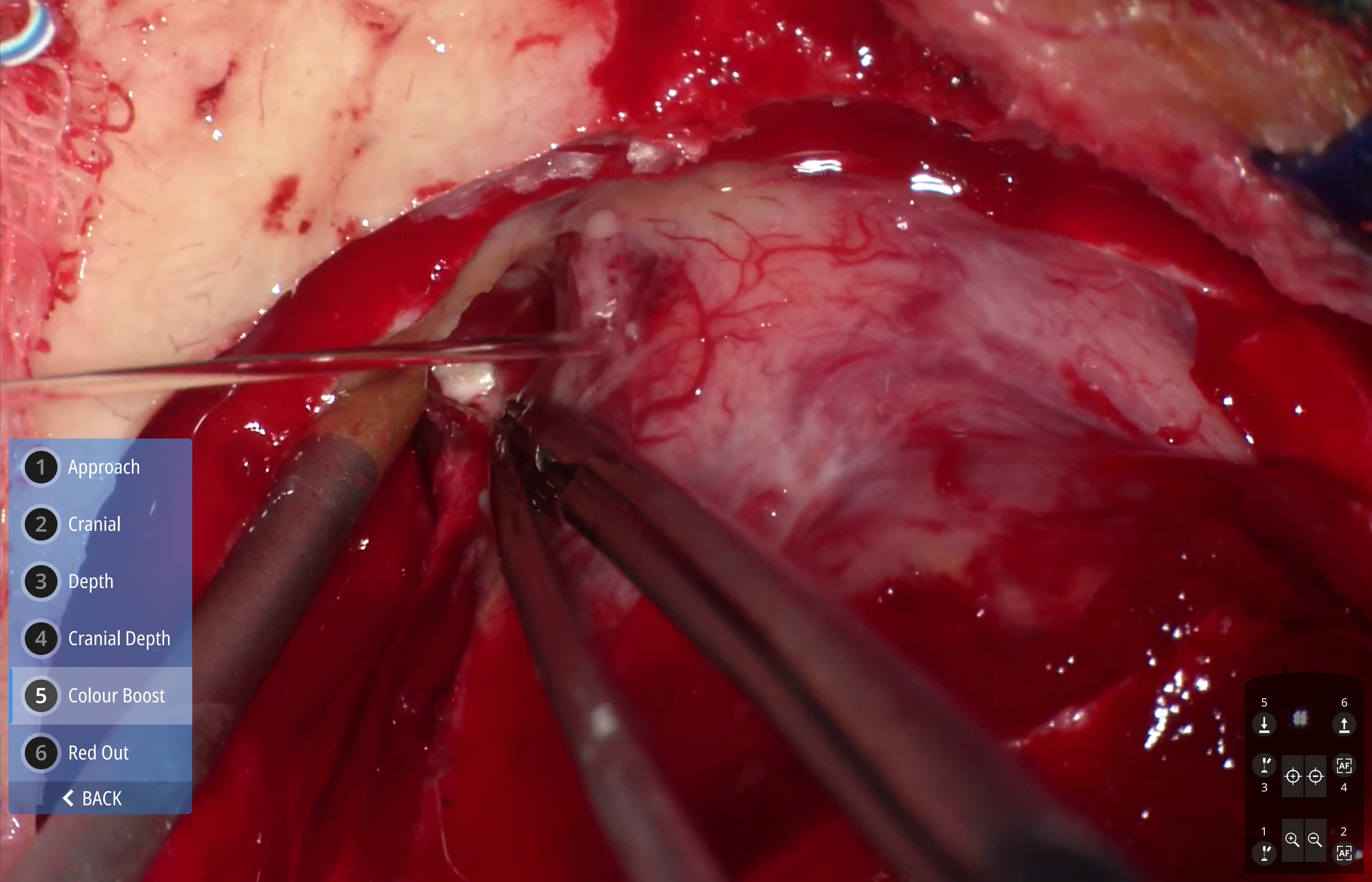
2

Zoom 50%
Focus 271 mm
Light 40%
Depth 39 mm
Mode 
Tool 
Alignment 









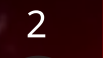
Camera Preset
5 Colour Boost
Position
4 17:29 090718

REC 3:47:09
80% 5 Hours

15:17:42 FRI JUL 13




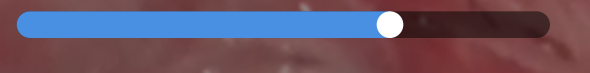
- 1 Approach
 - 2 Cranial
 - 3 Depth
 - 4 Cranial Depth
 - 5 Colour Boost
 - 6 Red Out
- ← BACK

5   6 
3    4
1   2 

Zoom 50%



Focus 271 mm



Light 40%



Depth 39 mm

Mode

Tool

Alignment

Camera Preset

5 Colour Boost

Position

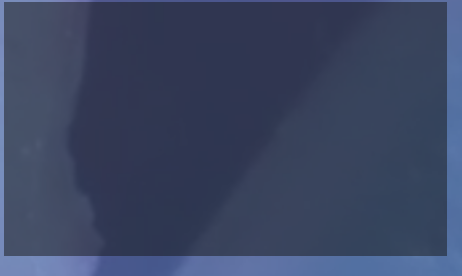
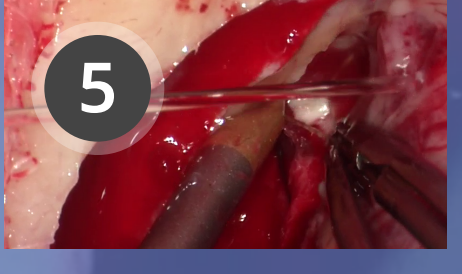
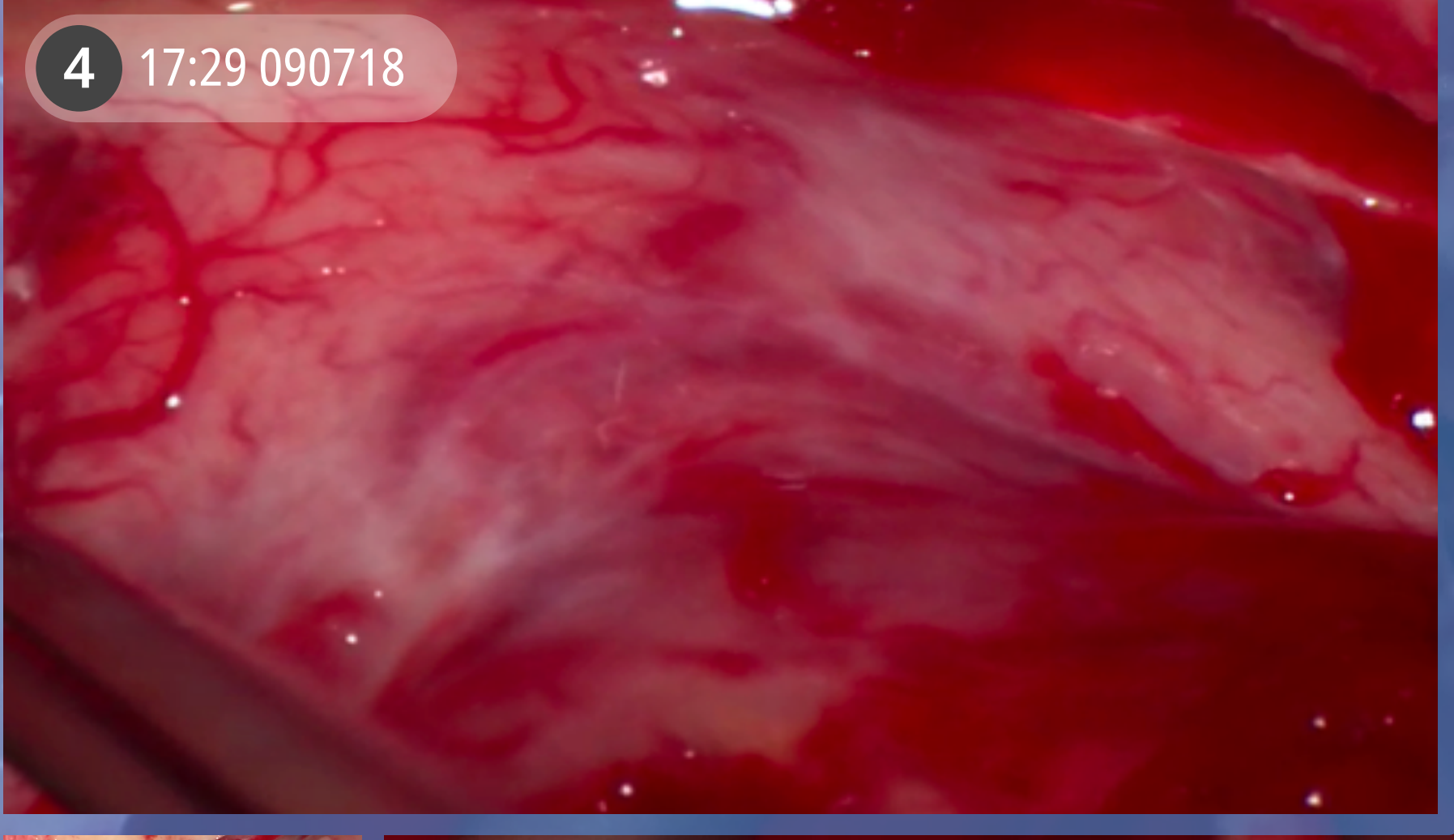
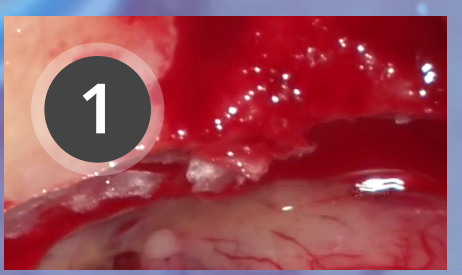
4 17:29 090718

REC 3:47:09

80% 5 Hours

15:17:42 FRI JUL 13

modus v



BACK

5 6

↓ ↑

3 4

1 2

⌂

Zoom 50%
Focus 271 mm
Light 40%

Depth 39 mm

Mode

Tool

Alignment

Camera Preset

5 Colour Boost

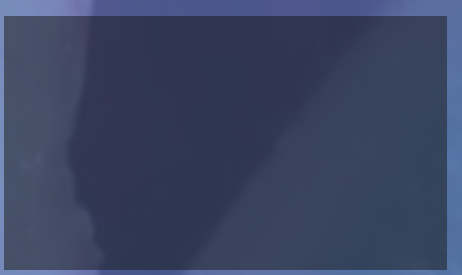
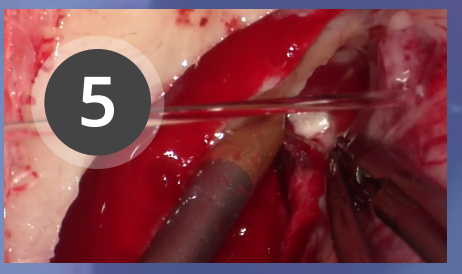
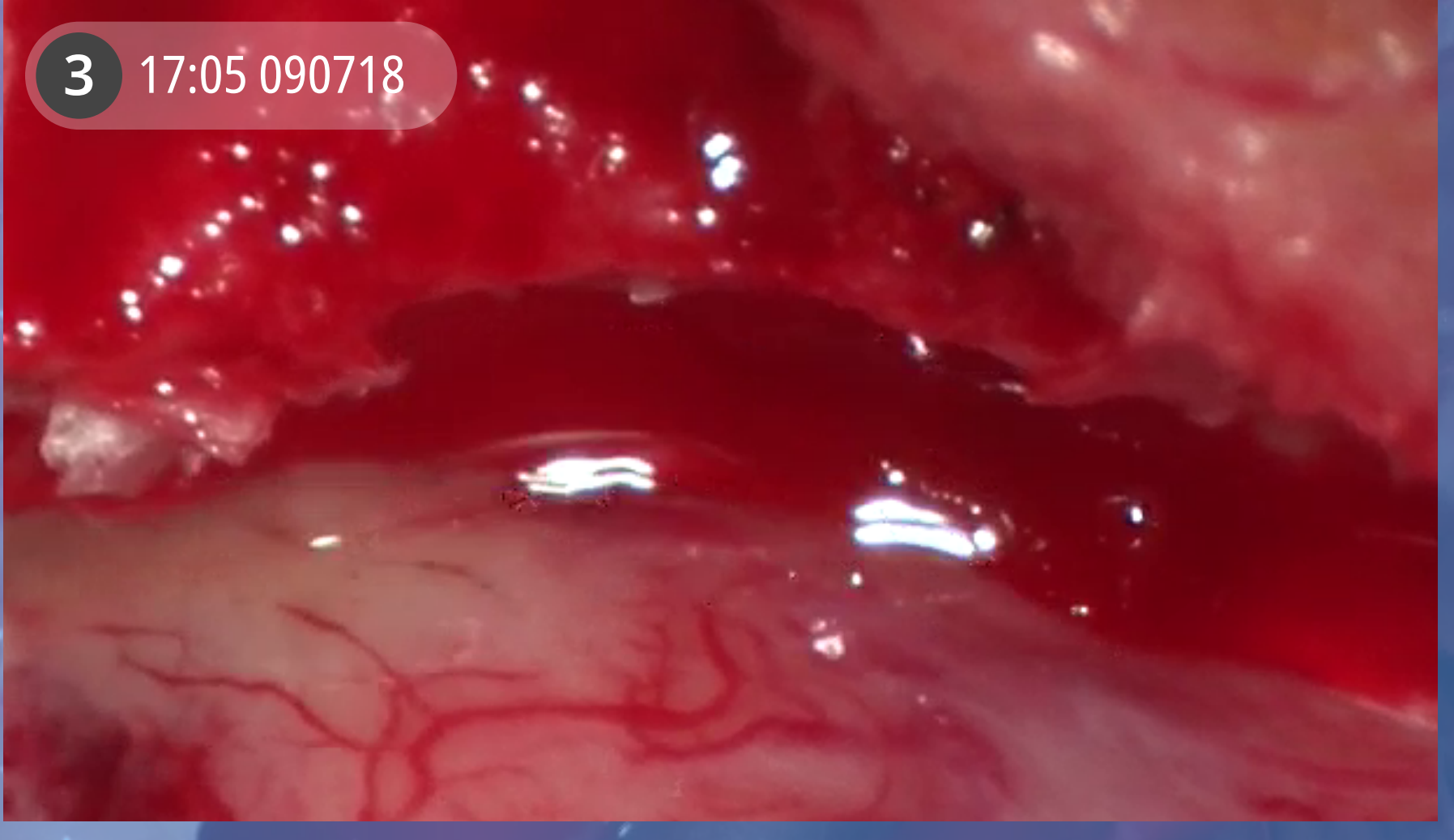
Position

4 17:29 090718

REC 3:47:09
80% 5 Hours

15:17:42 FRI JUL 13

modus v



← BACK

Voice Control

The user activates voice control by saying an activation phrase, e.g. Ok Coni, Ok Nova, Ok Oona. The specific phrase has not been chosen yet.



Zoom 50%

Focus 271 mm

Light 40%

Depth 39 mm

Mode

Tool

Alignment

Camera Preset

5 Colour Boost

Position

4 17:29 090718

REC 3:47:09

80% 5 Hours

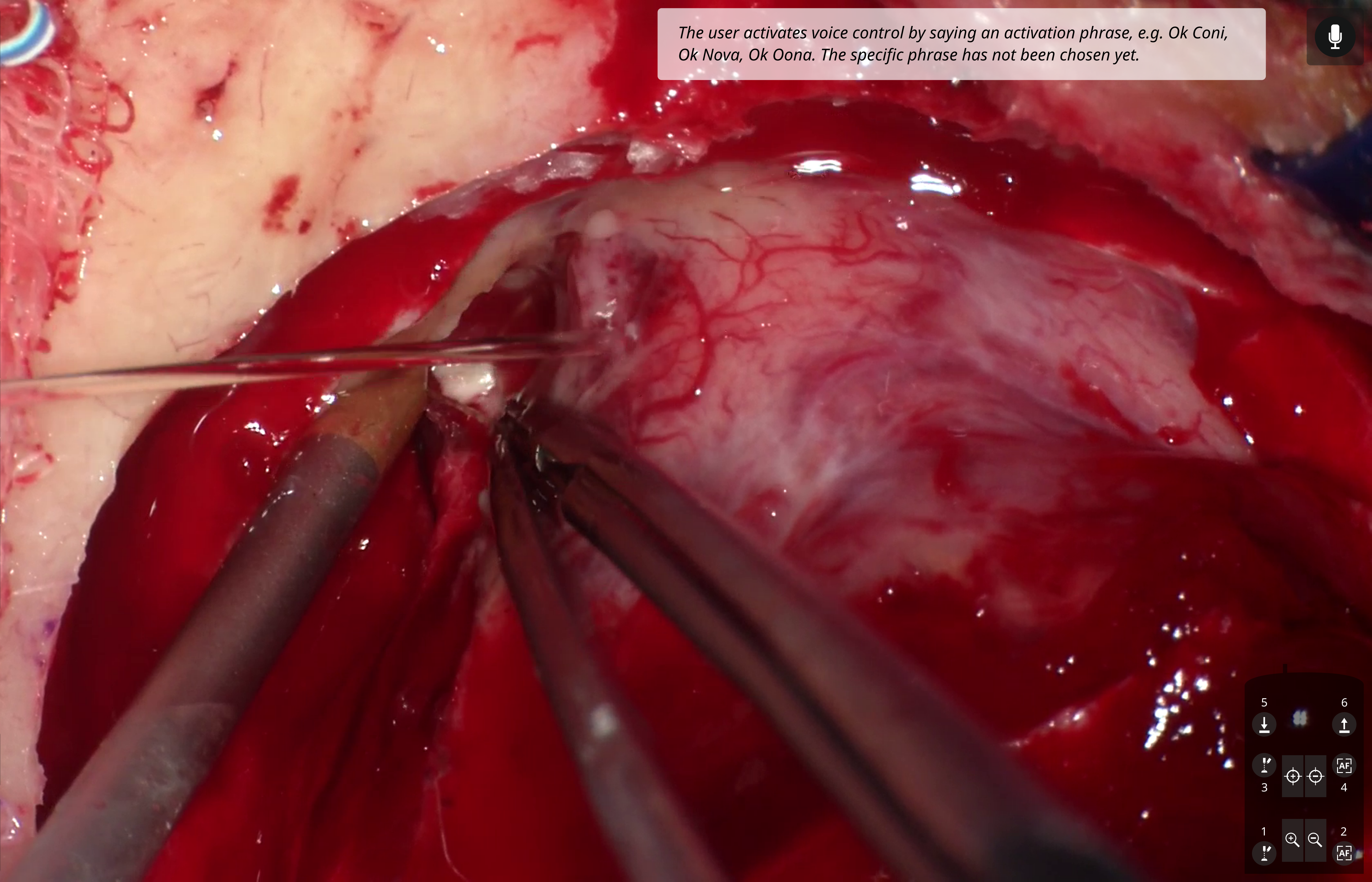
15:17:42 FRI JUL 13

modus v

5 6

3 4

1 2





Once the activation phrase is recognized, the microphone icon changes colour and Modus V starts listening for voice commands.

Zoom **50%**

Focus **271 mm**

Light **40%**

Depth **39 mm**

Mode

Tool

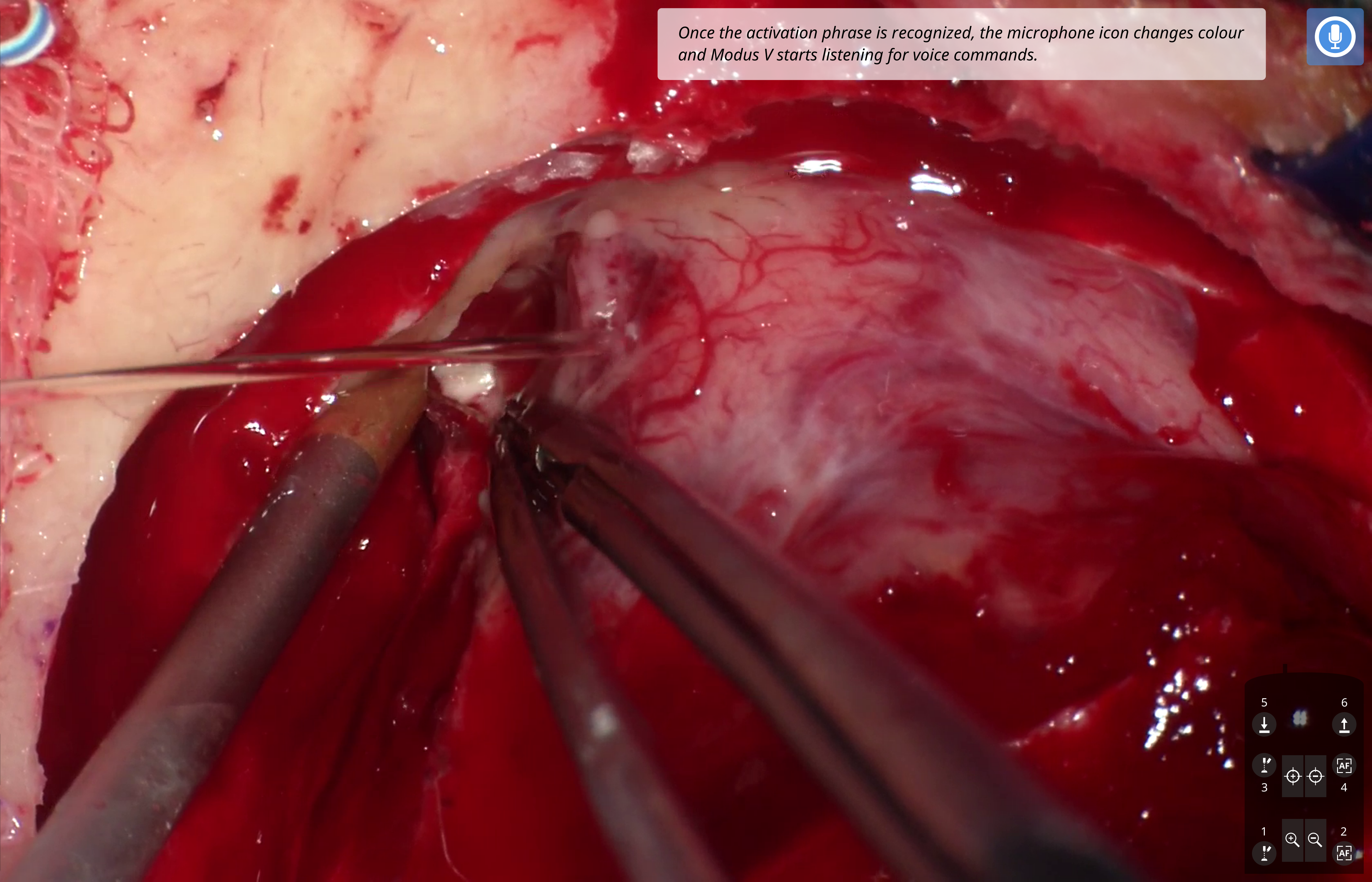
Alignment

Camera Preset

5 Colour Boost

Position

4 17:29 090718



5 6

3 4

1 2

REC 3:47:09

80% 5 Hours

15:17:42 FRI JUL 13

modus v



Modus V stays in "listening mode" for 20 seconds with the microphone icon showing a countdown clock. During this time, the user can say another voice command without having to say the activation phrase.

Zoom **50%**

Focus **271 mm**

Light **40%**

Depth **39 mm**

Mode

Tool

Alignment

Camera Preset

5 Colour Boost

Position

4 17:29 090718

REC 3:47:09

80% 5 Hours

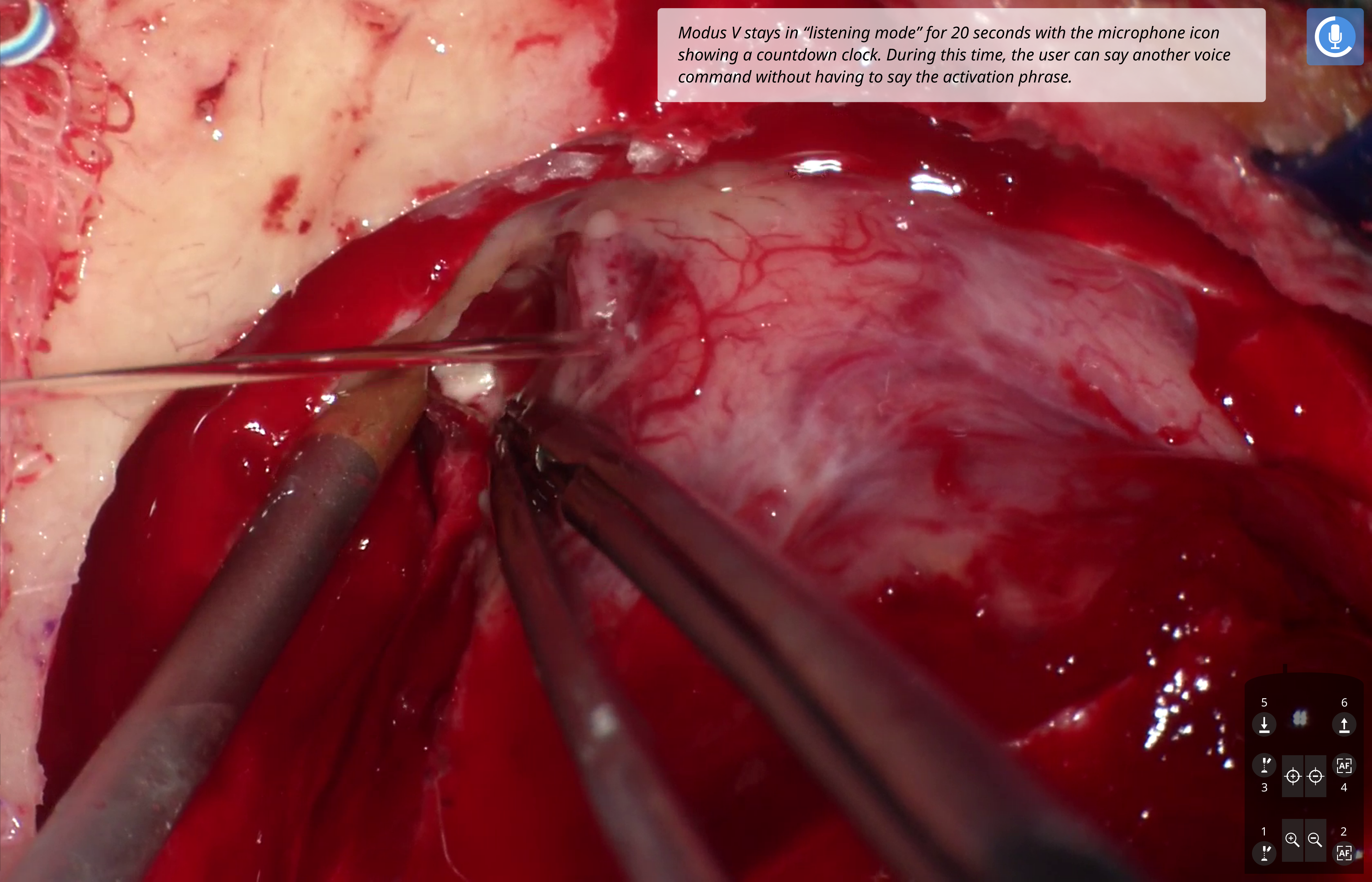
15:17:42 FRI JUL 13




modus v

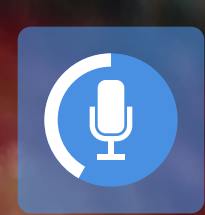
5 6


3 4

1 2

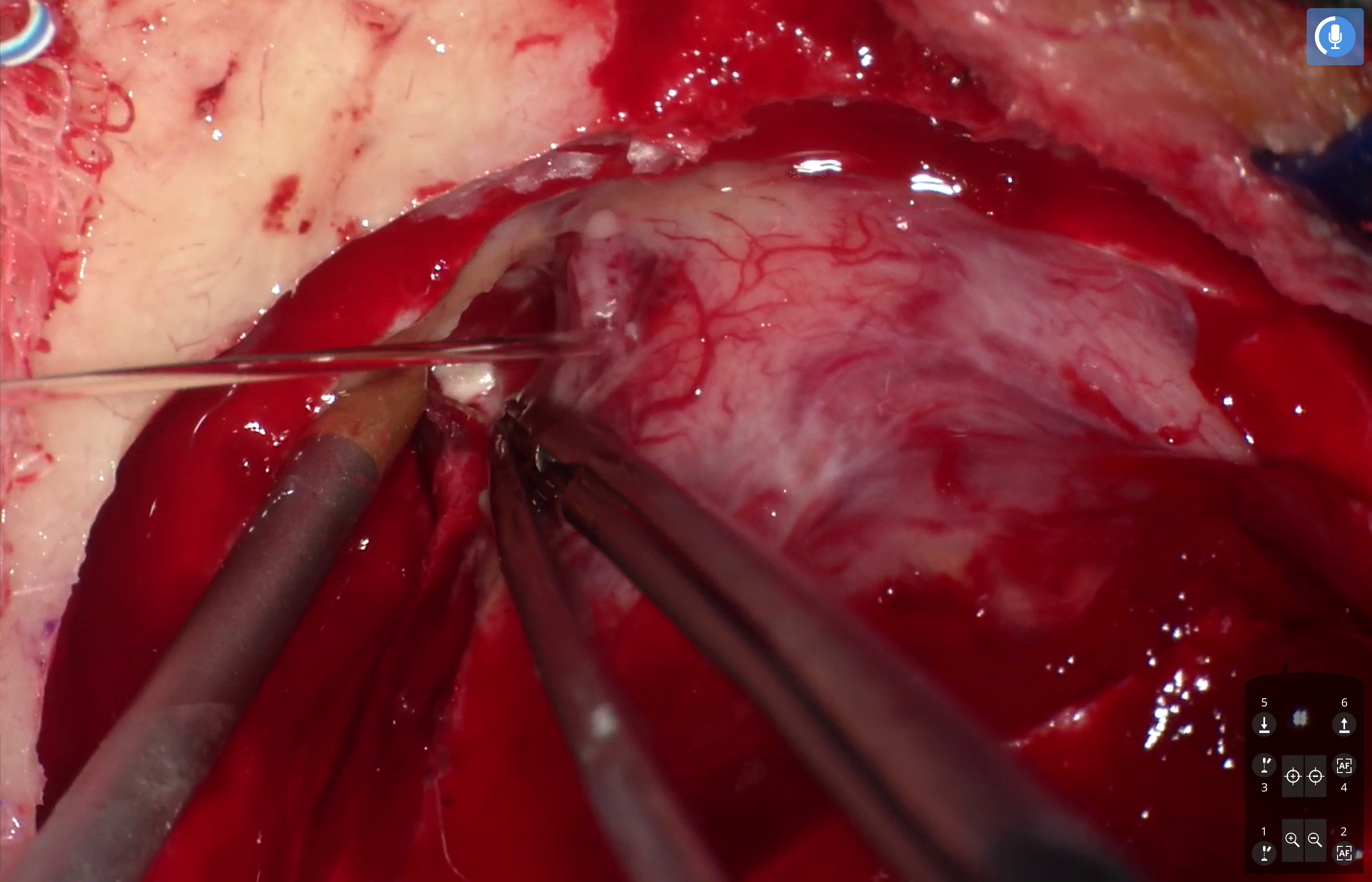


Zoom 50%
Focus 271 mm
Light 40%
Depth 39 mm
Mode 
Tool 
Alignment 
Camera Preset
5 Colour Boost
Position
4 17:29 090718



REC 3:47:09
80% 5 Hours
15:17:42 FRI JUL 13


5 6
↓ ↑
3 4
1 2
↑ ↓
AF AF



If the voice command is recognized the microphone icon turns green and Modus V executes the command.



Zoom **50%**

Focus **271 mm**

Light **40%**

Depth **39 mm**

Mode

Tool

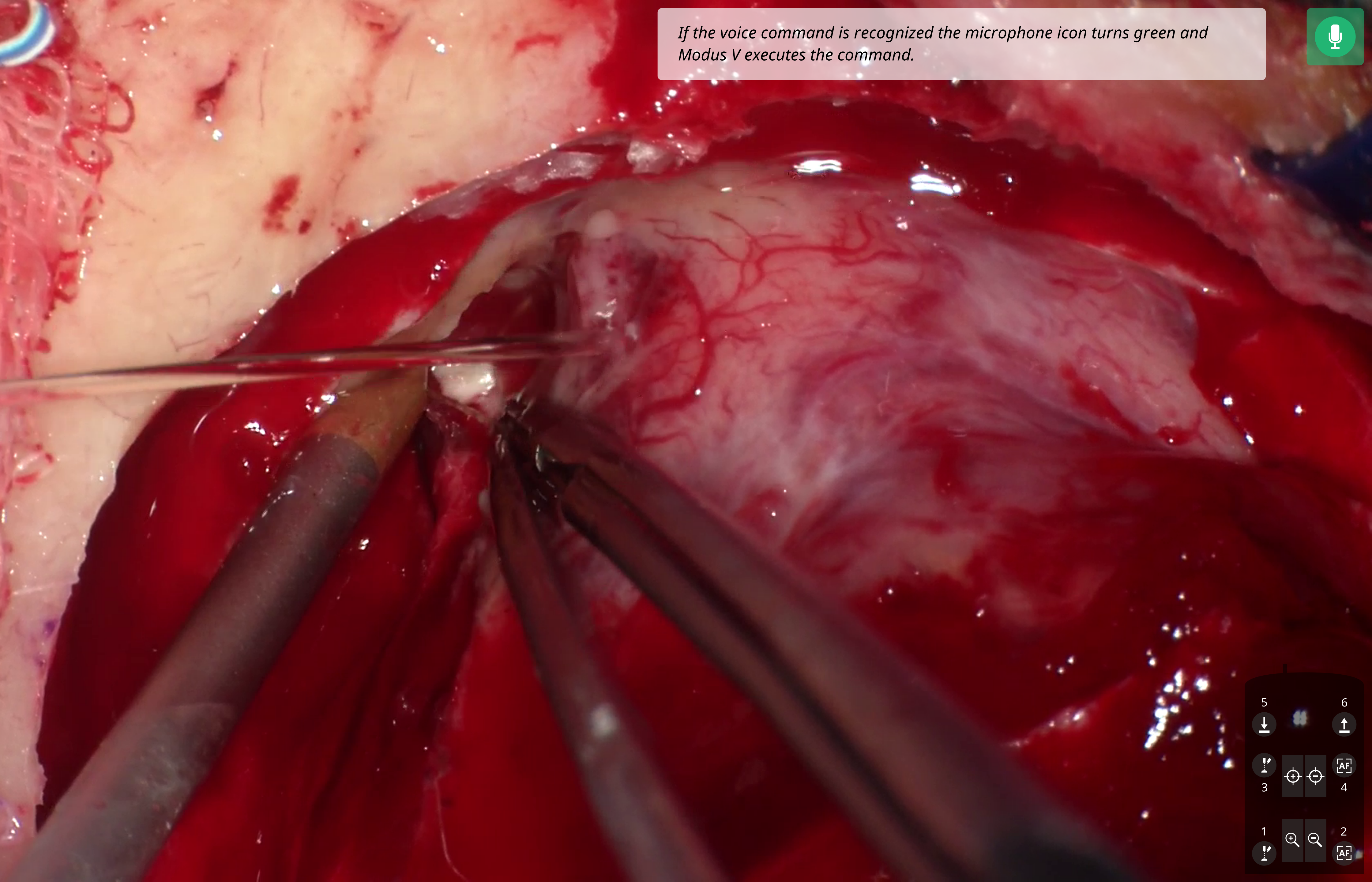
Alignment

Camera Preset

5 Colour Boost

Position

4 17:29 090718



REC 3:47:09

80% 5 Hours




15:17:42 FRI JUL 13

modus v


5 6

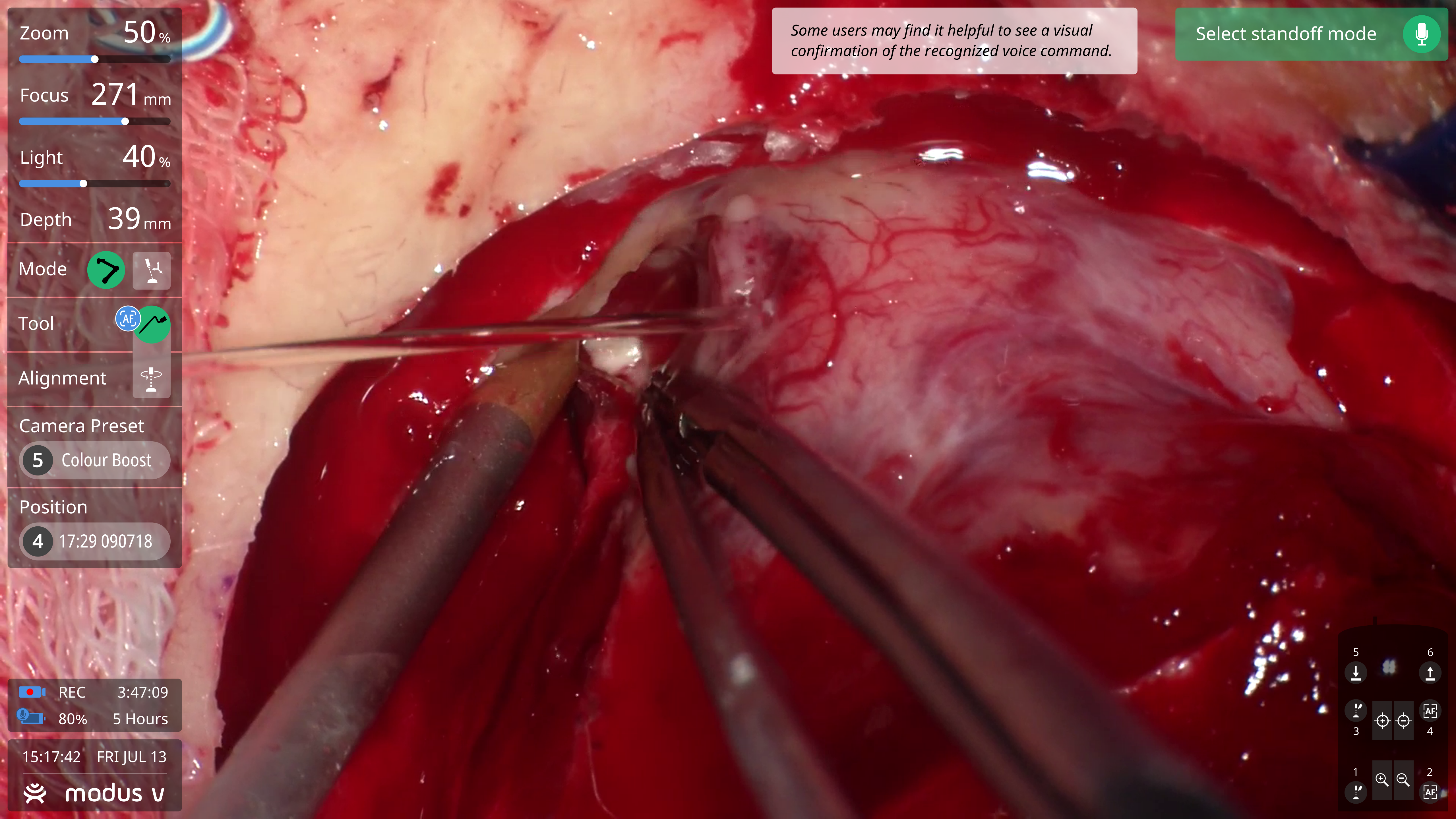
3 4


1 2

Zoom 50%
Focus 271 mm
Light 40%
Depth 39 mm
Mode 
Tool 
Alignment 
Camera Preset
5 Colour Boost
Position
4 17:29 090718

Some users may find it helpful to see a visual confirmation of the recognized voice command.

Select standoff mode 



REC 3:47:09
80% 5 Hours
15:17:42 FRI JUL 13
 modus v

5 6
↓ ↑
3 4
1 2
! ⊕ ⊖ AF



If the voice command is not recognized the microphone icon briefly turns red and Modus V returns to listening mode.

Zoom **50%**

Focus **271 mm**

Light **40%**

Depth **39 mm**

Mode

Tool

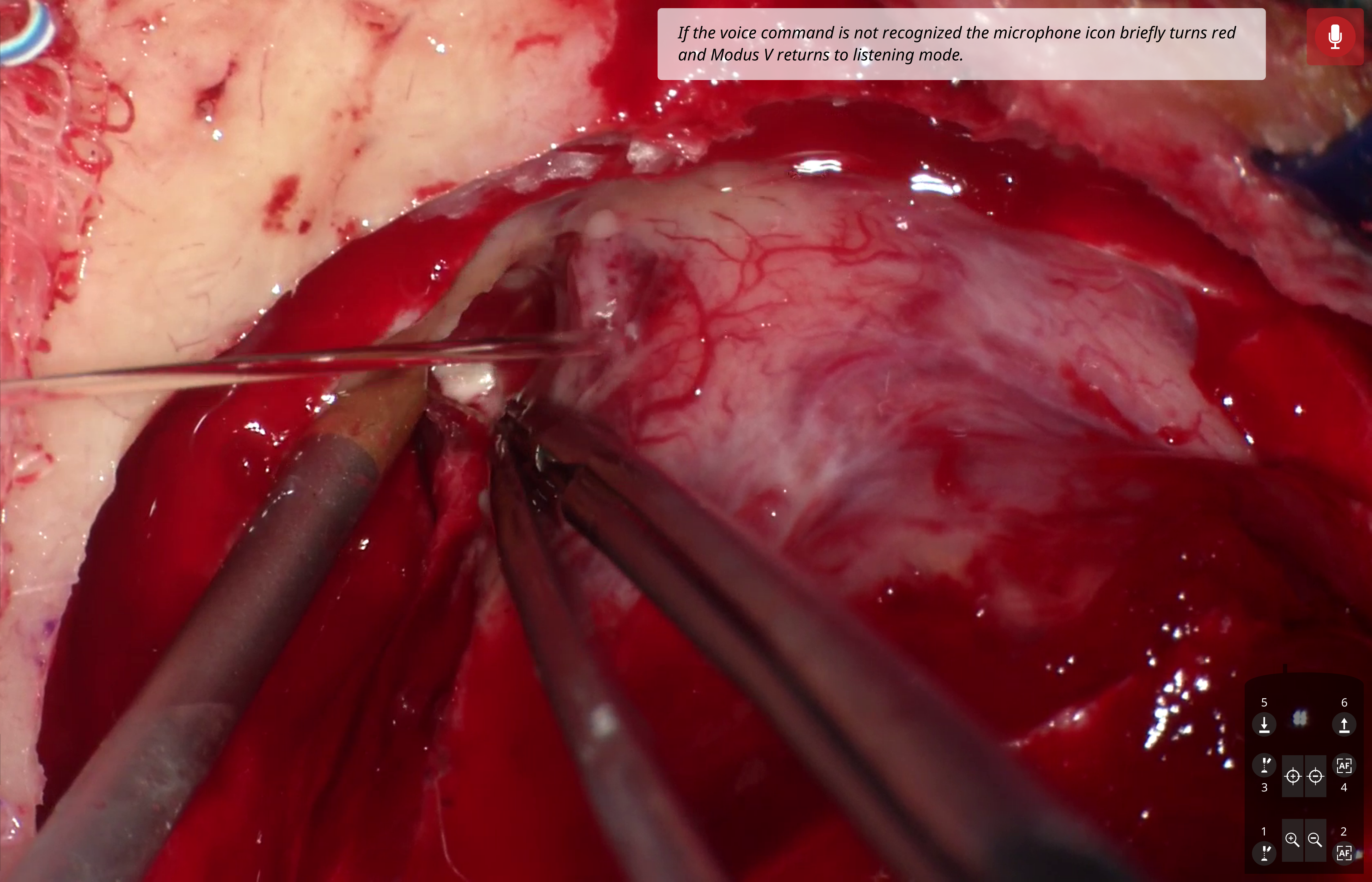
Alignment

Camera Preset

5 Colour Boost

Position

4 17:29 090718



REC 3:47:09

80% 5 Hours

15:17:42 FRI JUL 13

modus v

5 6

3 4

1 2



The voice command "show help" displays available commands.
There will be a short "essential commands" list as well as a complete list for users who want access to all voice commands.

Zoom **50%**

Focus **271 mm**

Light **40%**

Depth **39 mm**

Mode

Tool

Alignment

Camera Preset

5 Colour Boost

Position

4 17:29 090718

| Zoom | Focus | Lights | Tool | Alignment | Arm Mode | Position |
|---------|---------------------------|-------------------------|------------|---------------|----------------|-------------------------|
| Zoom... | Focus... | Lights... | Select... | Align To... | Select... | Select Position... |
| IN | IN | ON | POINTER | POINT | FREE | 1 2 3 4 5 6 |
| OUT | OUT | OFF | PORT | AXIS | ORBIT | _____ |
| MAXIMUM | MAXIMUM | UP | SUCTION 1 | AXIS ROTATION | STANDOFF | Save Position... |
| MINIMUM | MINIMUM | DOWN | SUCTION 2 | | TRANSLATE | 1 2 3 4 5 6 |
| | Auto-focus... | MAXIMUM | TRAJECTORY | | ROTATE | _____ |
| | HERE | MINIMUM | | | MANUAL | _____ |
| | ON | | | | ...mode | Select... |
| | OFF | Set lights to... | | | | LAST POSITION |
| | | 10 20 | | | | |
| | | 30 40 | | | | |
| | Auto-focus link... | 50 60 | | | | |
| | ON | 70 80 | | | | |
| | OFF | 90 100 | | | | |

Ok Nova, hide help

REC 3:47:09

80% 5 Hours

15:17:42 FRI JUL 13

modus v

Tool Calibration

Zoom 50%

Focus 271 mm

Light 40%

Depth 39 mm

Mode

Tool

Alignment

Camera Preset

5 Colour Boost

Position

4 17:29 090718

Tool Calibration

ORIENT > CALIBRATE > VERIFY

Face the tracking spheres towards the camera.

SUCTION 1

CALIBRATION BLOCK

REC 3:47:09

80% 5 Hours

15:17:42 FRI JUL 13

5

6

3

4

1

2

Zoom 50%

Focus 271 mm

Light 40%

Depth 39 mm

Mode

Tool

Alignment

Camera Preset

5 Colour Boost

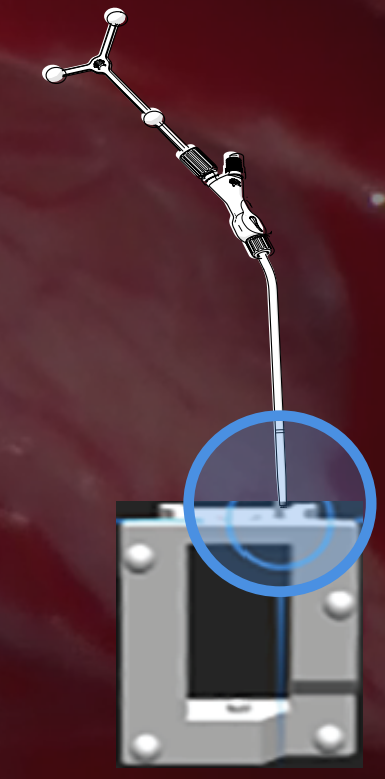
Position

4 17:29 090718

Tool Calibration

ORIENT > CALIBRATE > VERIFY

Place Suction 1 tool into the calibration block...



Note: The images used in this calibration/ verification concept are placeholders only.

REC 3:47:09

80% 5 Hours

15:17:42 FRI JUL 13

modus v

5 6

3 4

1 2

Zoom 50%

Focus 271 mm

Light 40%

Depth 39 mm

Mode

Tool

Alignment

Camera Preset

5 Colour Boost

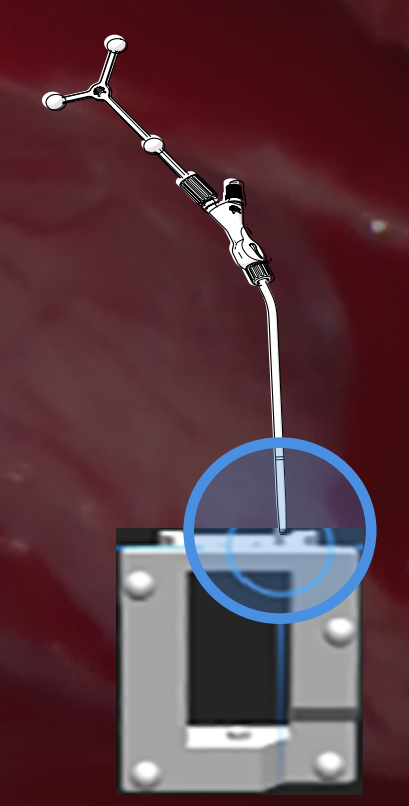
Position

4 17:29 090718

Tool Calibration

ORIENT > CALIBRATE > VERIFY

Calibrating...



REC 3:47:09

80% 5 Hours

15:17:42 FRI JUL 13

modus v

5 6

3 4

1 2

Zoom 50%

Focus 271 mm

Light 40%

Depth 39 mm

Mode

Tool

Alignment

Camera Preset

5 Colour Boost

Position

4 17:29 090718

Tool Calibration

ORIENT > CALIBRATE > VERIFY

Place Suction 1 tool into the verification divot.

REC 3:47:09

80% 5 Hours

15:17:42 FRI JUL 13

modus v

5 6

3 4

1 2

Zoom 50%

Focus 271 mm

Light 40%

Depth 39 mm

Mode

Tool

Alignment

Camera Preset

5 Colour Boost

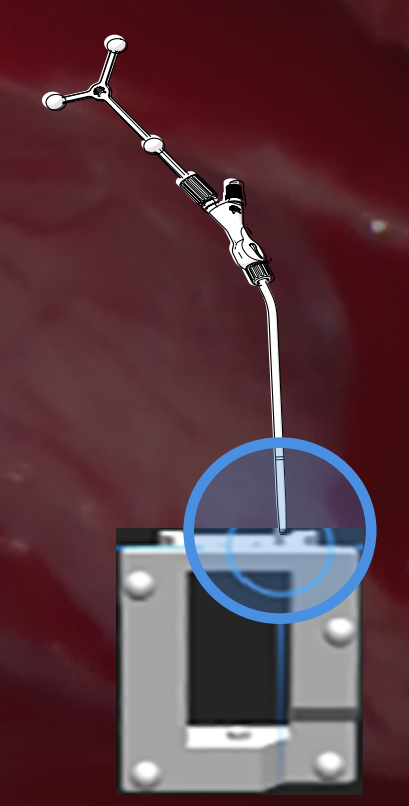
Position

4 17:29 090718

Tool Calibration

ORIENT > CALIBRATE > VERIFY

Verifying...



REC 3:47:09

80% 5 Hours

15:17:42 FRI JUL 13




modus v


5 6


3 4

1 2


Notifications









Zoom 50%
Focus 271 mm
Light 40%
Depth 39 mm
Mode 
Tool 
Alignment 
Camera Preset
5 Colour Boost
Position
4 17:29 090718




 The chosen distance exceeds safety limits.


 Suction 2 tool is not visible.


REC 3:47:09
80% 5 Hours

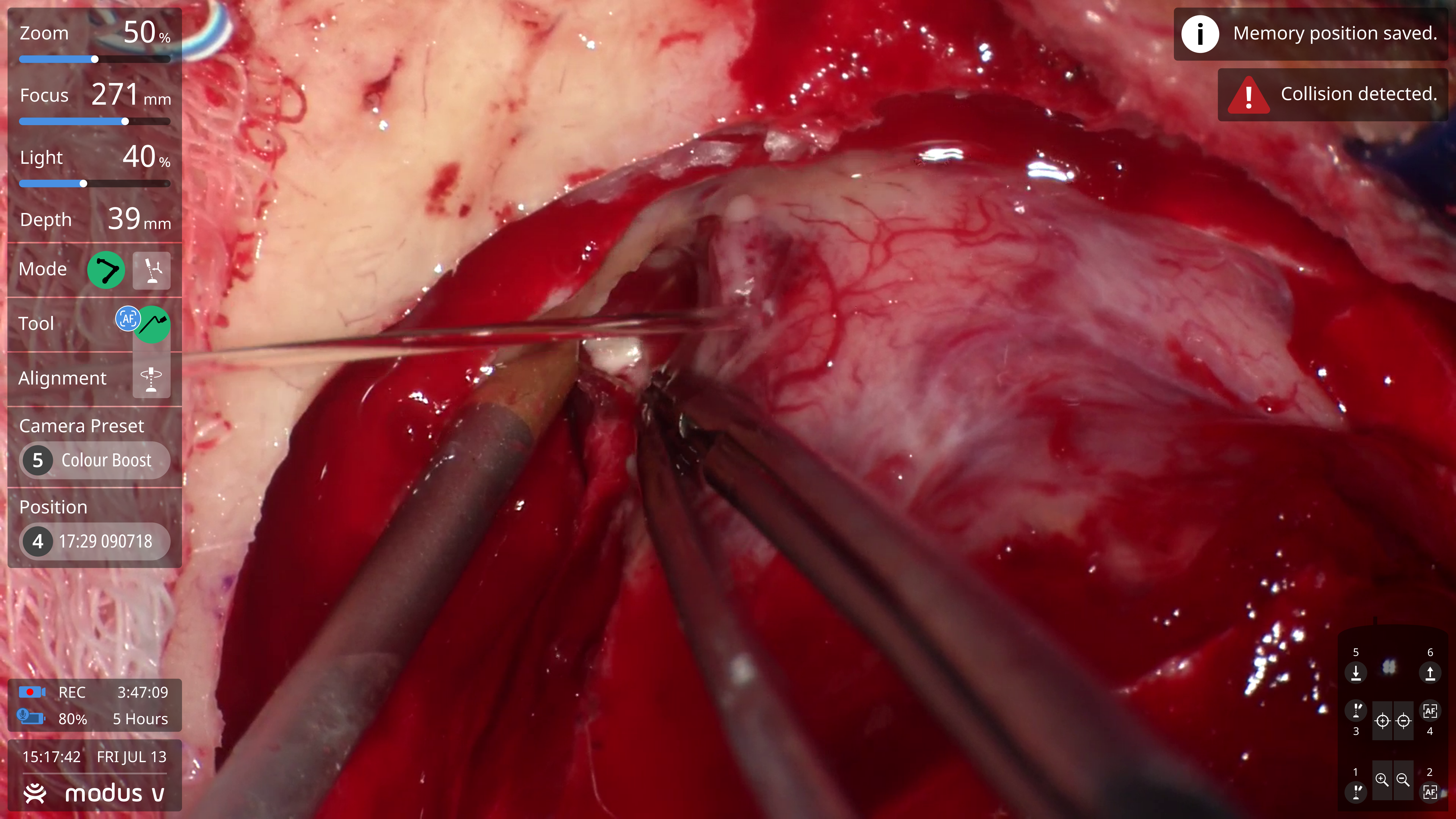
15:17:42 FRI JUL 13
 modus v


5  6 
3   
1   2 










Zoom 50%
Focus 271 mm
Light 40%
Depth 39 mm
Mode 
Tool 
Alignment 
Camera Preset
5 Colour Boost
Position
4 17:29 090718


 Memory position saved.

 Collision detected.



REC 3:47:09
80% 5 Hours
15:17:42 FRI JUL 13
 modus v

5 6
  
3   
4
1   2



 Voice control transmitter battery charger is at 20%.
You have 15 minutes to replace the battery.


Zoom **50%**


Focus **271 mm**

Light **40%**

Depth **39 mm**

Mode 

Tool 


Alignment 


Camera Preset

5 Colour Boost


Position



4 17:29 090718



 REC 3:47:09

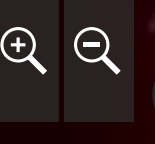
 80% 5 Hours

15:17:42 FRI JUL 13

 modus v

5  6 

3  4 

1  2 