3D,4D Protocol

Clinical Application Team

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3D Scan Protocol

1. Acquire good B-mode image

 - Face & Spine : Scan 'Sagittal plane'
 - Hand & Foot: Scan 'Axial Plane'

2. **-> Soft menu 5**

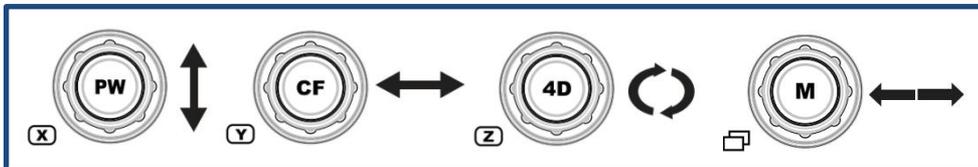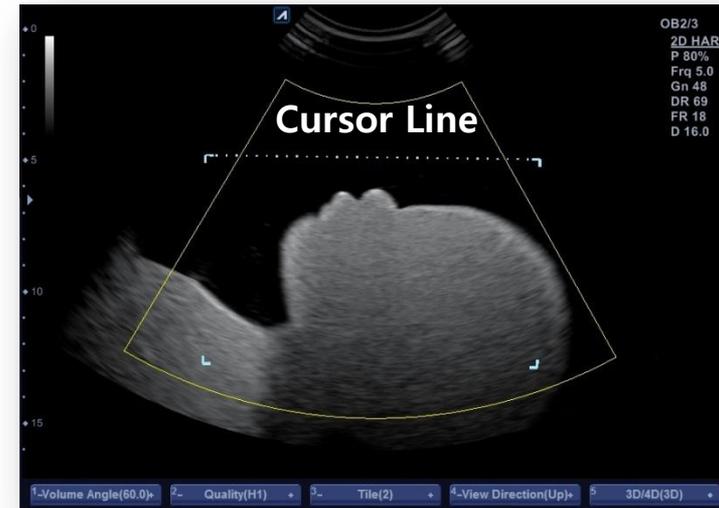 - 3D : Static volume data
 - 4D : Real time volume data

3. Move ROI box

4. Start -> Freeze

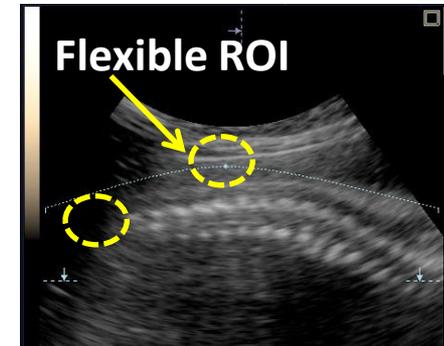 - Do not move probe until Progress is 100% done

5. Rendering

 - X, Y, Z axis rotation (PW, CF, 4D) / Left,Right(M button)

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Click 'Priority' button -> move 'Track ball' to choose function

Flexible ROI

Cursor	Move	ROI	Flexible ROI
Choose settings	Move Image	Adjust ROI size	ROI cursor line flexible

Single   Dual   Quad

6.   -> Choose Tile 1,2,4

- Single : Display only 3D image
- Dual : A plane 2D image + 3D image
- Quad : A,B,C plane 3D images + 3D image
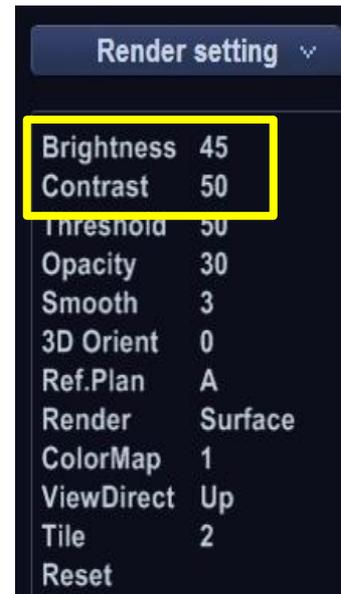
Render setting ∨

Brightness	45
Contrast	50
Threshold	50
Opacity	30
Smooth	3
3D Orient	0
Ref.Plan	A
Render	Surface
ColorMap	1
ViewDirect	Up
Tile	2
Reset	

3D Scan Protocol

7. Make Preset
- Click Soft menu 5 'Define preset'

1 Default ♦	2 Surface ♦	3 Spine ♦	4 Early Preg ♦	5 Live HQ ♦
No Preset ♦	No Preset ♦	No Preset ♦	No Preset ♦	Define Preset ♦

8. Render setting (Left on the screen)
- Adjust by 'Select key'

Select

Render setting ∨

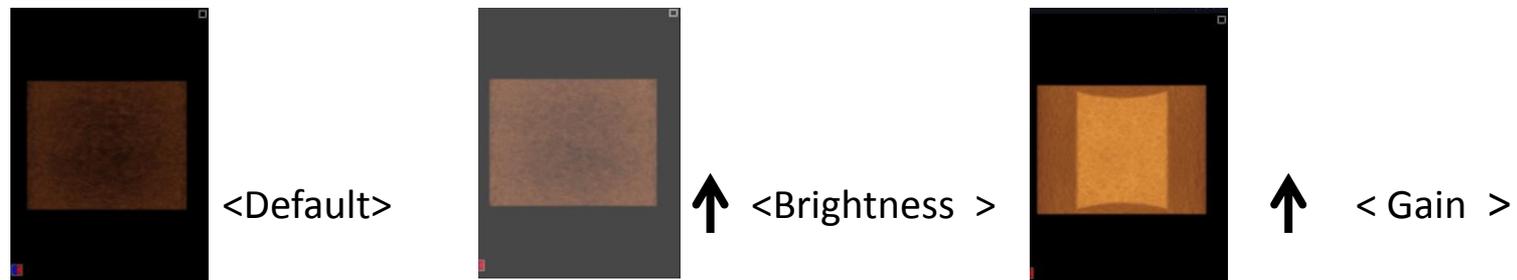| Brightness | 45 |
Contrast	50
Threshold	50
Opacity	30
Smooth	3
3D Orient	0
Ref.Plan	A
Render	Surface
ColorMap	1
ViewDirect	Up
Tile	2
Reset	

8. Render setting (Left on the screen)
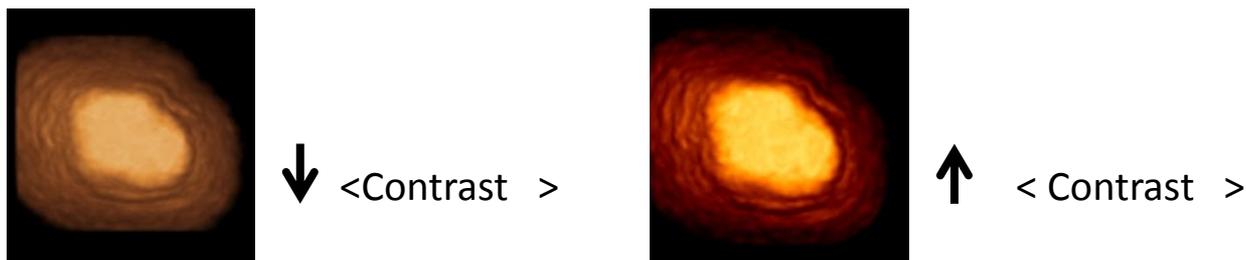
- **Brightness** : Adjust the overall brightness of screen. 0-100

- **Gain** : Based on 2D gain. More signal on ROI area.

 <Default>   ↑ <Brightness >   ↑ < Gain >

- **Contrast** : Adjust the contrast 0-100.
 It is better to adjust contrast high if image is too smooth.

 ↓ <Contrast >   ↑ < Contrast >

3D Scan Protocol

8. Render setting (Left on the screen)

Select

Render setting ∨

Brightness	45
Contrast	50
Threshold	50
Opacity	30
Smooth	3
3D Orient	0
Ref.Plan	A
Render	Surface
ColorMap	1
ViewDirect	Up
Tile	2
Reset	

- Threshold : Adjust the threshold to define structure of interest.
0-255
Early Pregnancy -> Increase
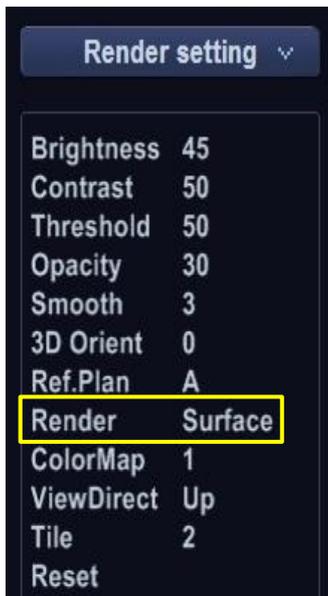Late Pregnancy -> Decrease

↓ <Threshold >
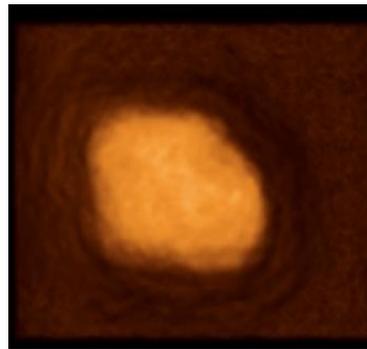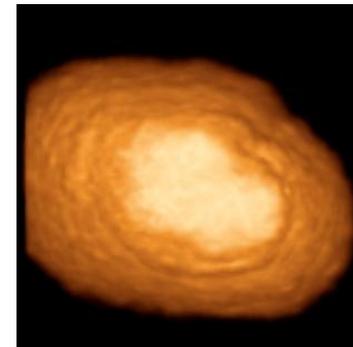
↑ < Threshold >

- Opacity : Adjust the opacity to eliminate darker gray shades,
background noise. 0-100
Similar with/to 인 지 확인 transparency.

- **Smooth** : Adjust the smooth to apply a low-pass filter. 0-6

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8. Render setting (Left on the screen)
- Render (Default -> Light)

Select

Render setting ⌄

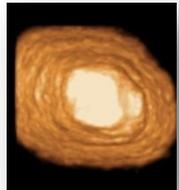|	
Brightness	45
Contrast	50
Threshold	50
Opacity	30
Smooth	3
3D Orient	0
Ref.Plan	A
Render	Surface
ColorMap	1
ViewDirect	Up
Tile	2
Reset	

* Surface : Possible to combine the gradient and texture shading.
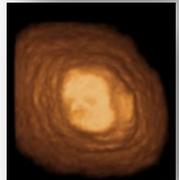Sum of the colors derived for gradient and texture shading.

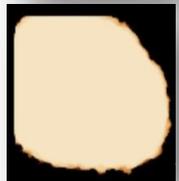* Max IP : Maximum intensity projection.
Useful for Bone structure.

* Min IP : Minimum intensity projection.
Useful for vessel or cavities.
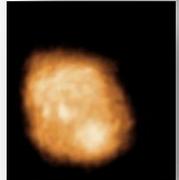
* Light : Combination of Gradient / Texture render mode and
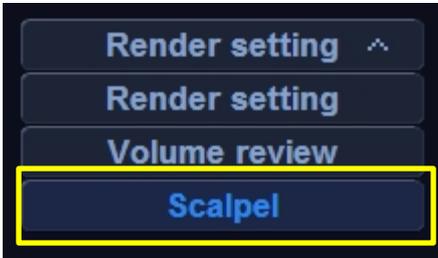enabled depth cueing.

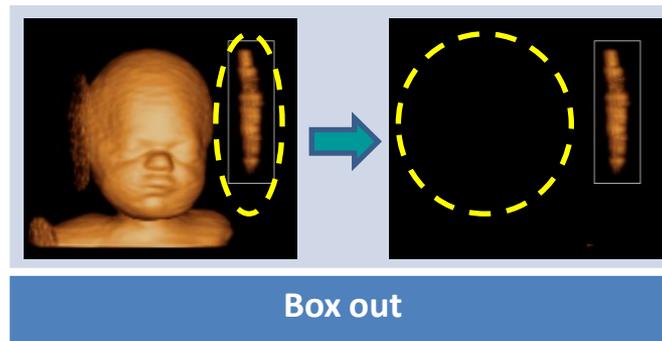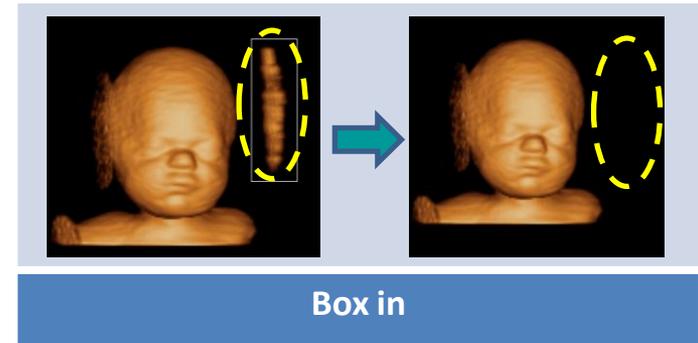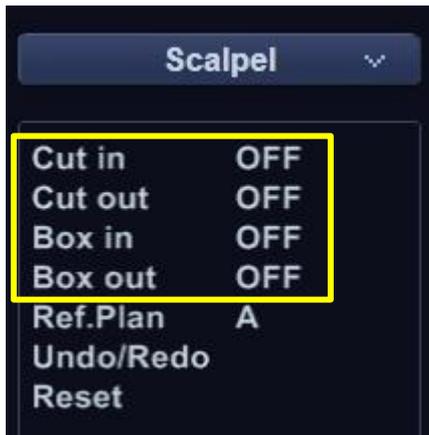* X-ray : 3D image in average intensity. Shown like a X-ray

Scalpel Mode

Scalpel mode = Magic Cut

Cut in	**Cut inside of ROI**
Cut out	**Cut outside of ROI**
Box in	**Cut inside of ROI Box**
Box out	**Cut outside of ROI Box**

Box in

Box out

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LIVE HQ

- **LIVE HQ is the ALPINION's proprietary high featured 3D/4D rendering technology.**
  The technology to describe the fetus's figure more realistic by multiple angle of light beam

- **Path :**
  3D/4D mode > MPR mode >Select Live HQ on the context menu or soft menu button.
- **Adjust Light** :
  ① Make a Cursor by ' Priority '
  ② Move the Cursor on light mark
  ③ Switch the direction of beam by adjusting track ball