

# Tips and tricks for trocar positing in robotic kidney surgery

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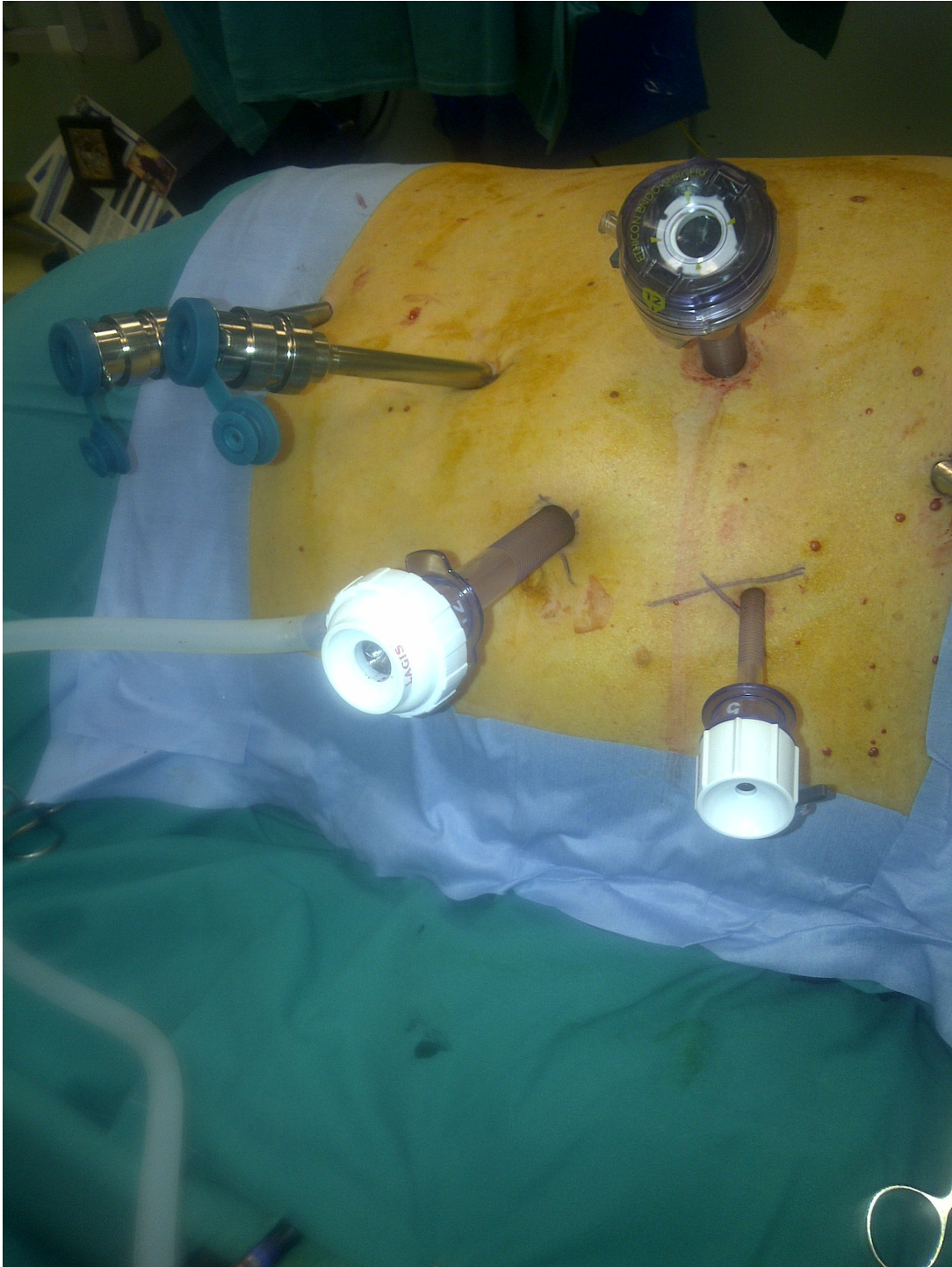
# Variation in trocar placement in robotic kidney surgery

- Camera position
  - Medial
  - Lateral
- Number of trocars
  - 3 robotic arms (1 camera & 2 working arms)
  - 4 robotic arms (1 camera & 3 working arms)
- Type of camera
  - 0°
  - 30° down or even up

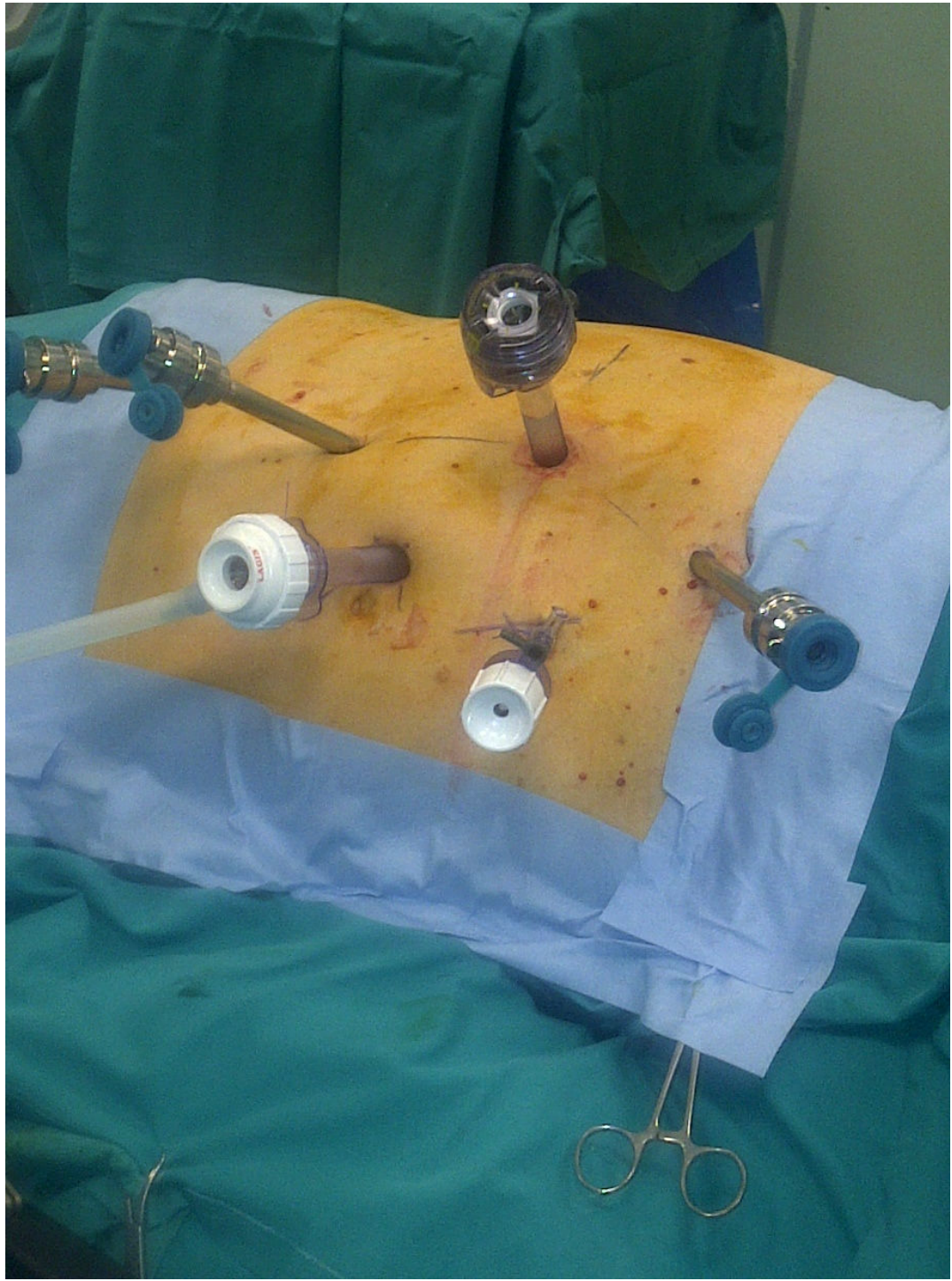
# Trocar positing in robotic kidney surgery (radical or partial nephrectomy) - Basic principles of my way -

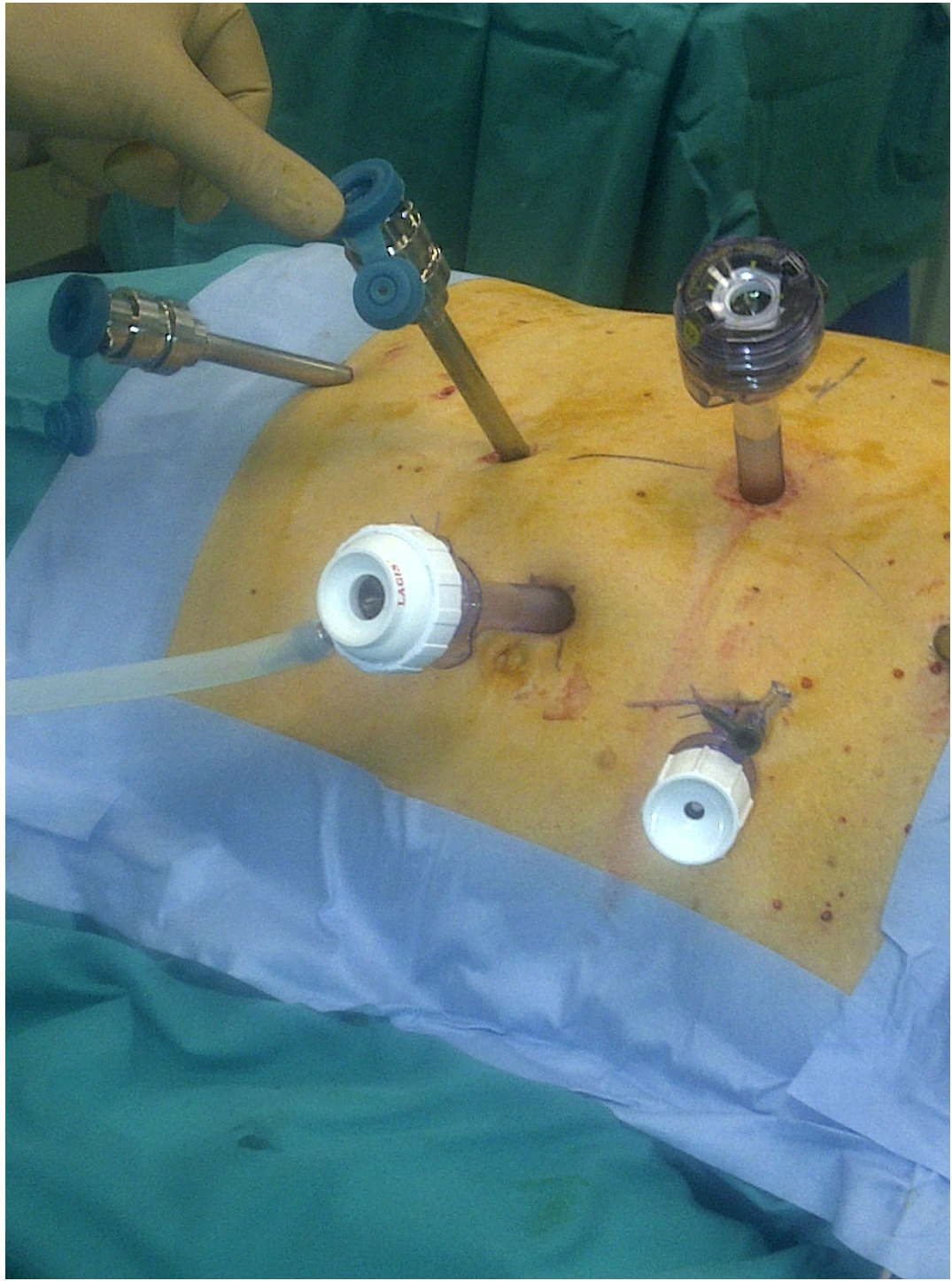
- Orientation – kidney hilum (like pelvic surgery)
- 4 trocars – 4<sup>th</sup> arm for kidney traction only
- Type of camera - 30° down
- Position of camera – medial or slight lateral to the working robotic trocars
- 1 or 2 assistant trocars medial to camera port
- Veress needle
- Starting with camera port 4 finger width from thorax margin downwards to umbilicus

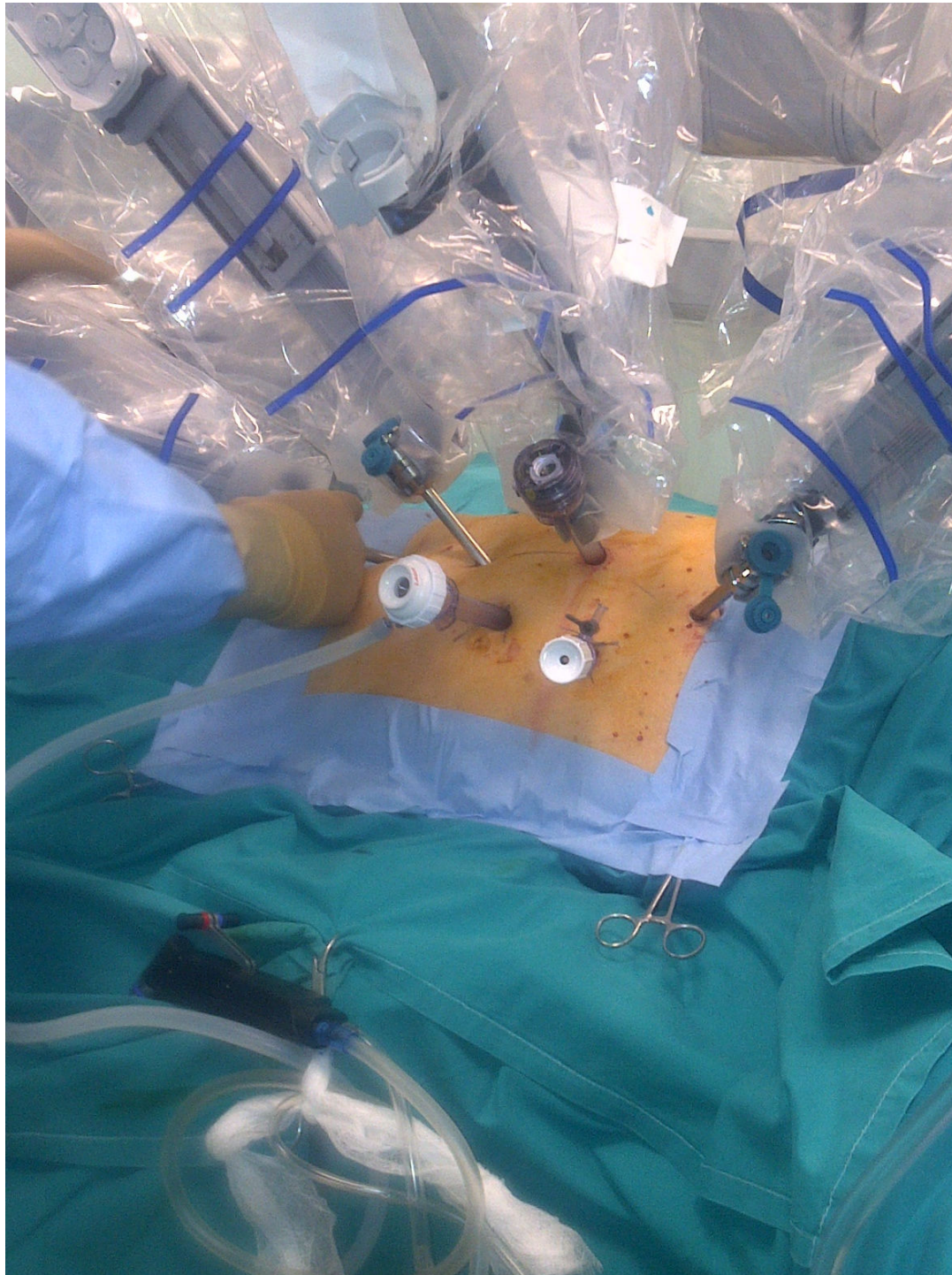


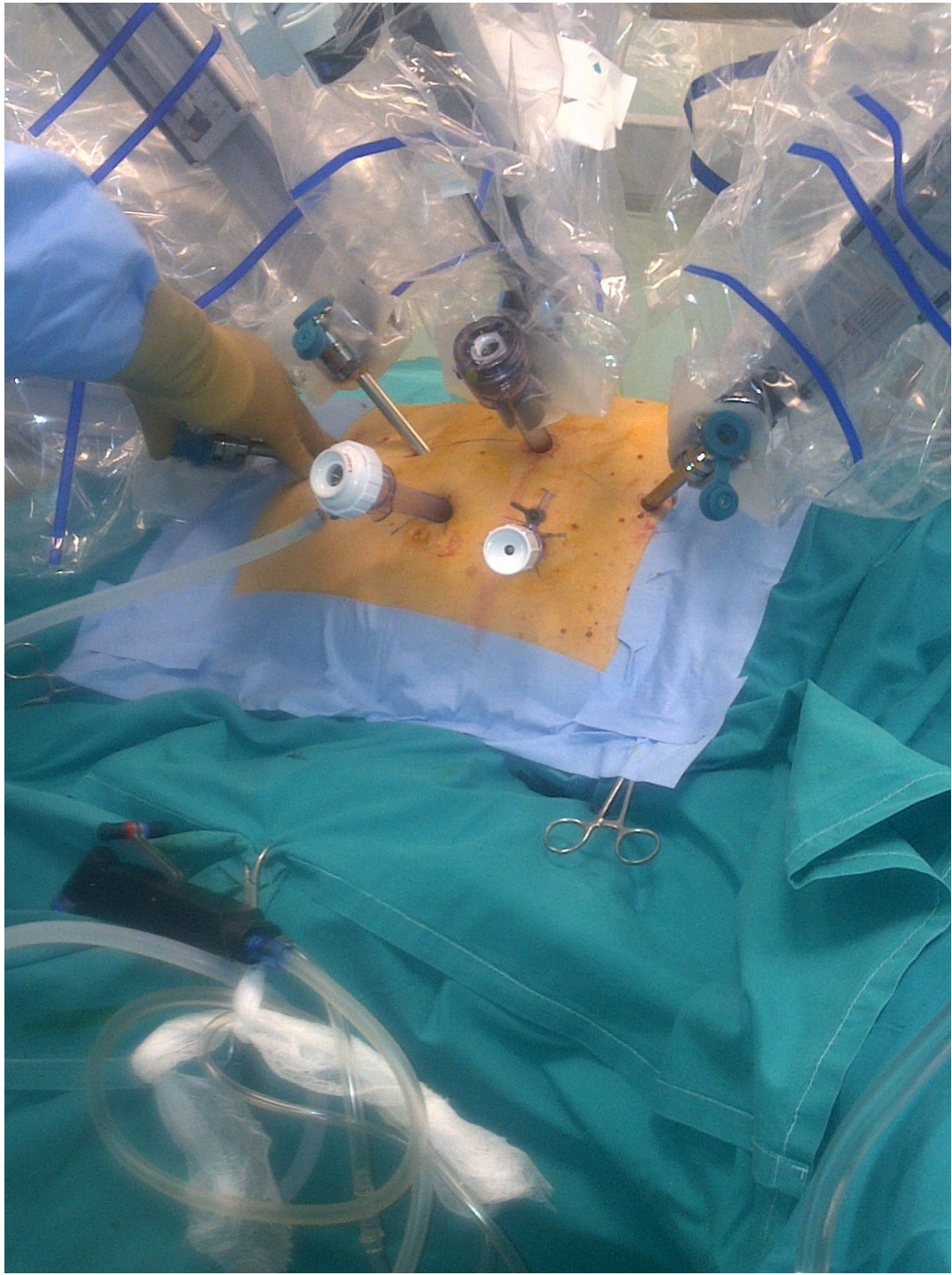


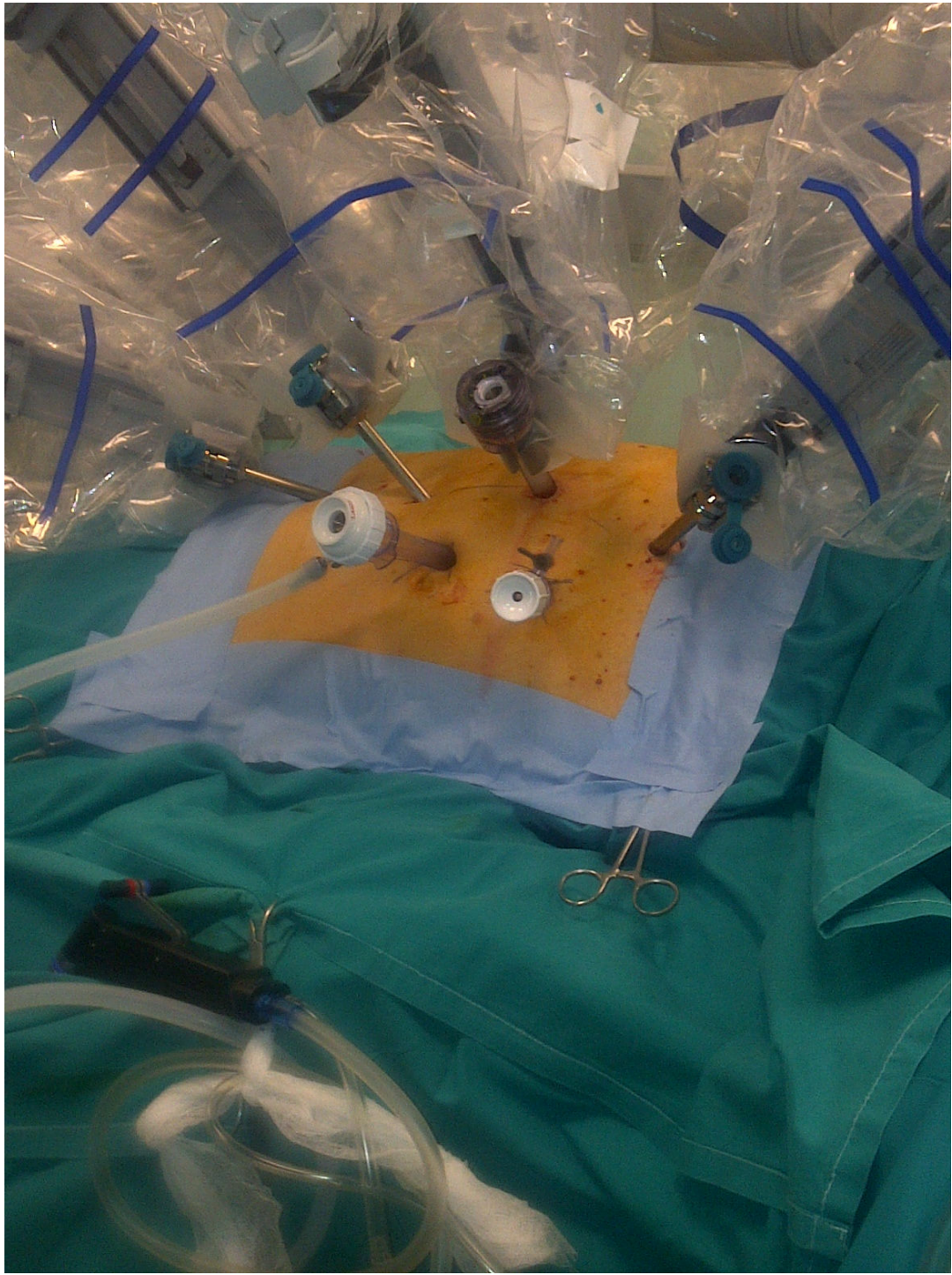


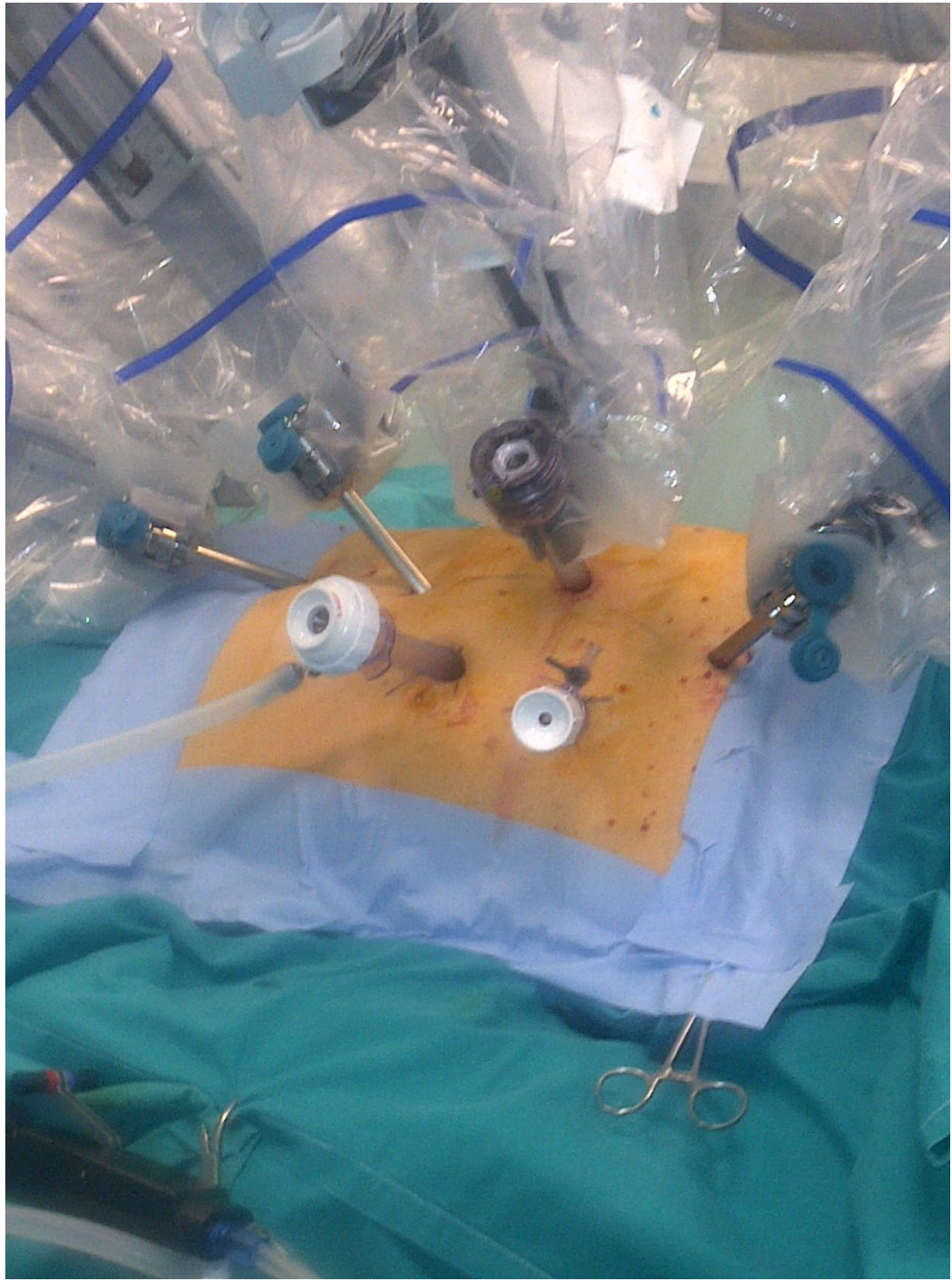




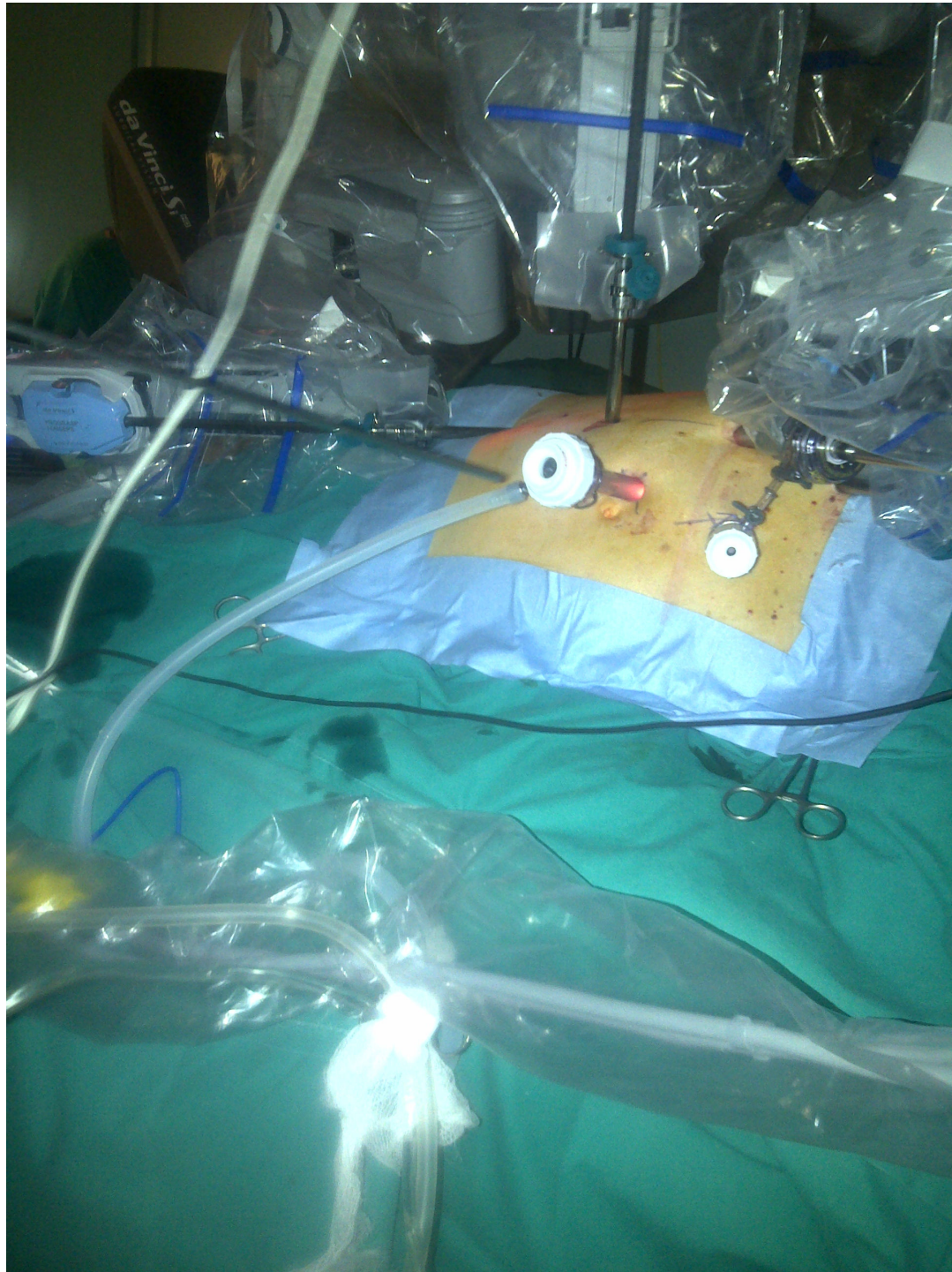


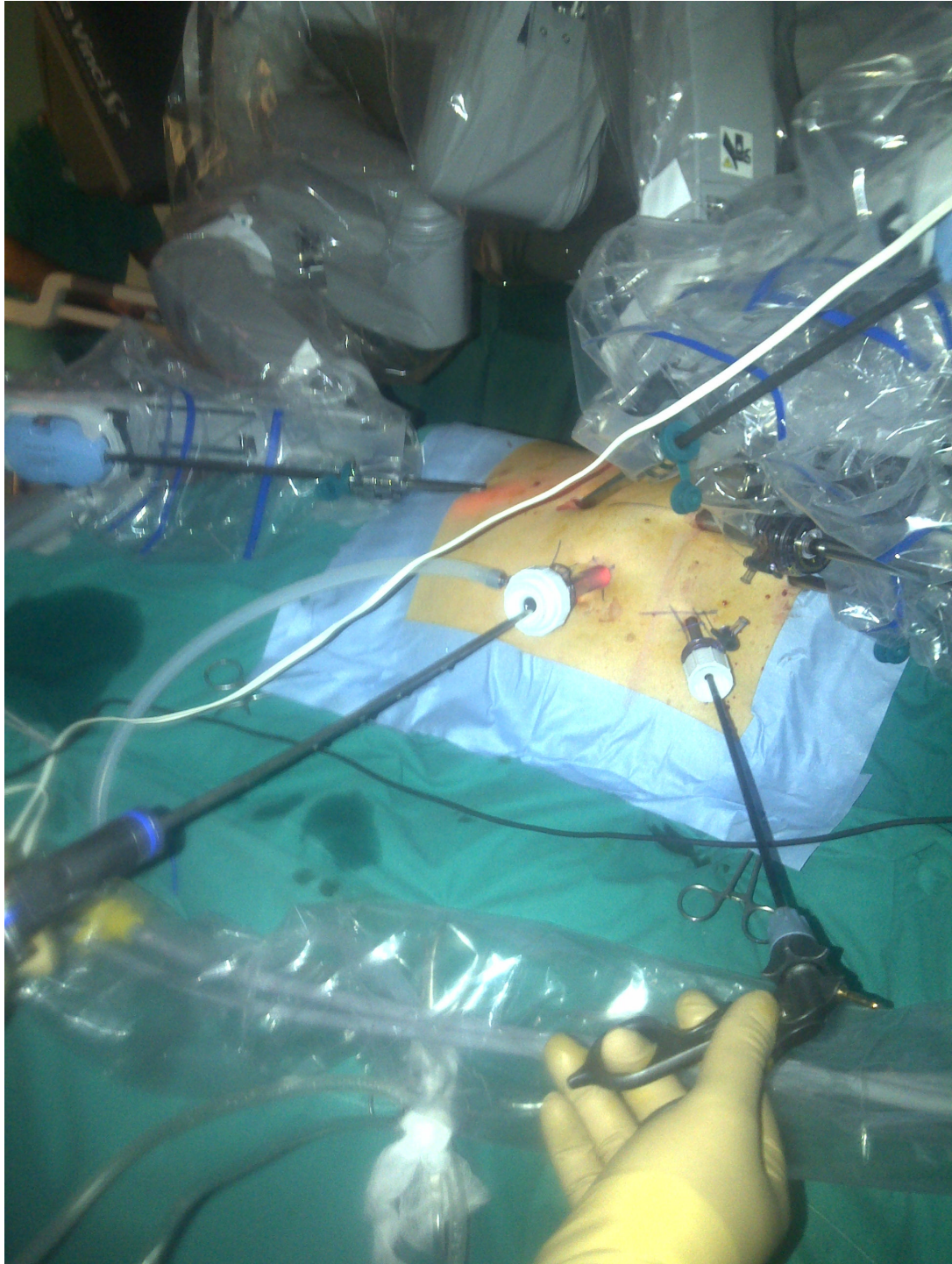


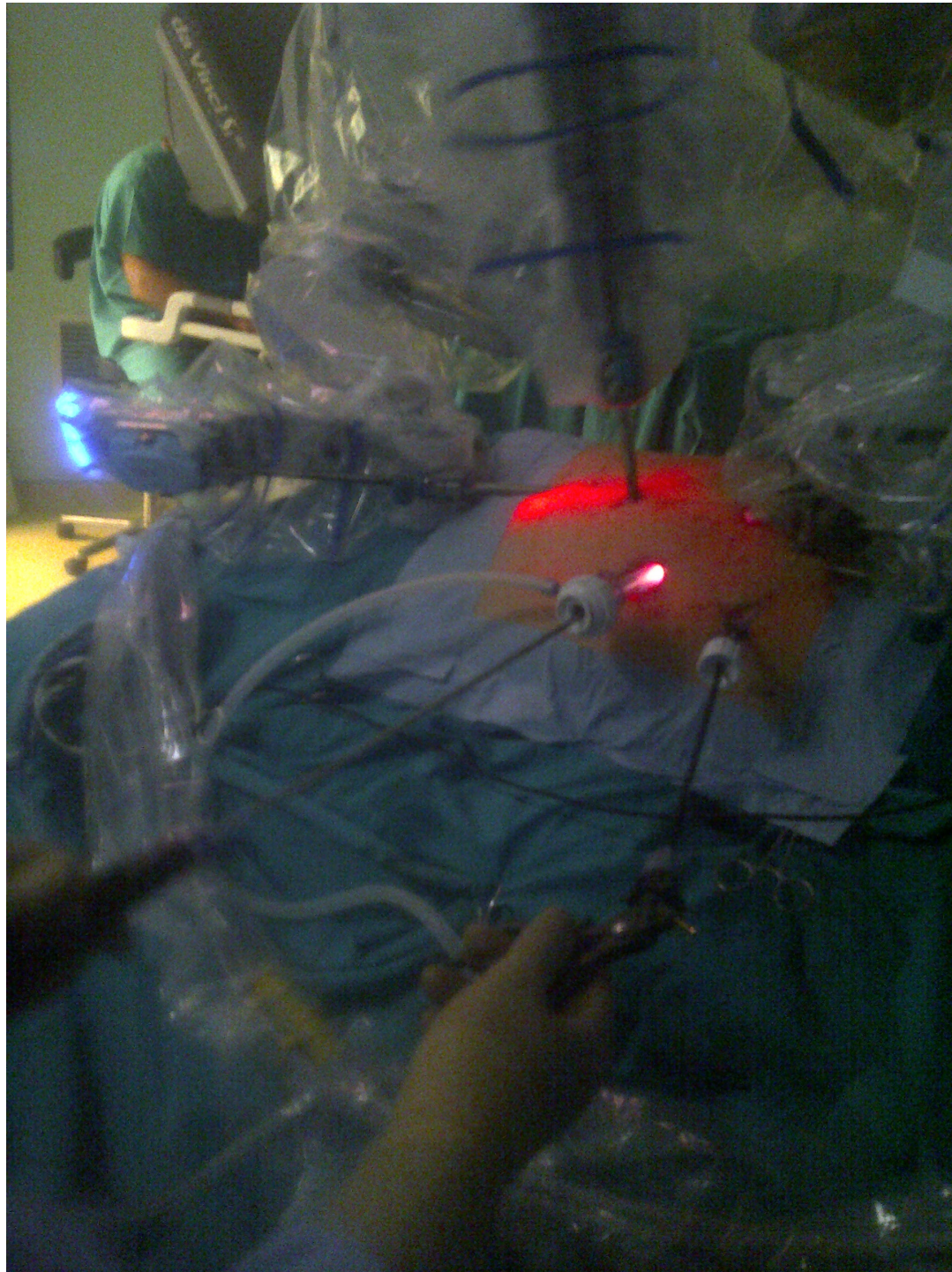












# Alternative trocar positioning

- Camera port more caudal
  - > better view to renal hilum
  - > feasibility to use only one 12mm-trocar for the assistant on the left side
- 4<sup>th</sup> arm more lateral
  - > save place for the 3<sup>rd</sup> arm
  - > useful in case of small body figure

# Alternative trocar positioning



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Thank you very much!