



# Camera Controller



## User Manual Position Guide



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# How to get the robot correctly positioned

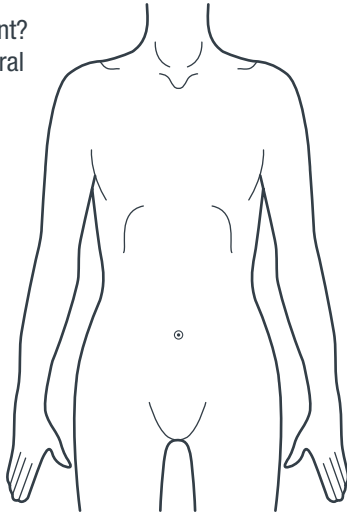
## Obtaining the key information

### How to start

A surgeon wants to try FreeHand - where, what and how?

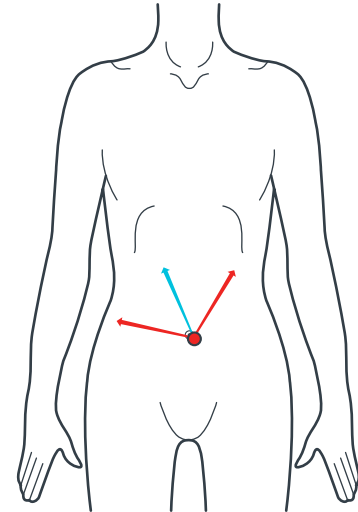
- Ideally have enough time to do a dry-lab with surgeon
- Follow the path shown to get close to how it will work for the surgeon
- NB with a little practice this part becomes much faster!

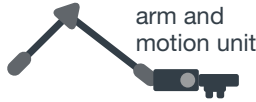
- Position of patient?  
- eg supine, lateral



### Identify

- camera port ●
- arc of view required by surgeon
- mid-line ←

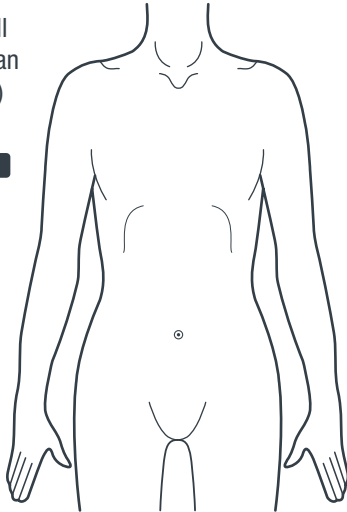


| keycode          |   |
|------------------|---|
| ● camera port    | ● operating port  |
| — scope + camera |  arm and motion unit |
| ■ control box    |   |

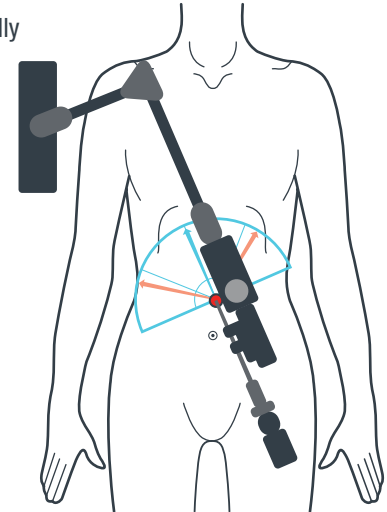
# How to get the robot correctly positioned




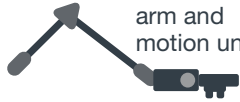

## Obtaining the key information

- An imaginary protractor will define maximum view in pan (left to right) mode (ie 180°)
- Place scope on neutral mid-line






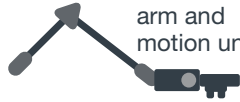

- The 'Motion Unit' is diametrically opposite the mid-line of the scope. The Motion Unit predicts the line of the arm which predicts the position of the Control Box on the table



| keycode   |   |
|---|---|
|  camera port   |  operating port      |
|  scope + camera |  arm and motion unit |
|  control box    |   |

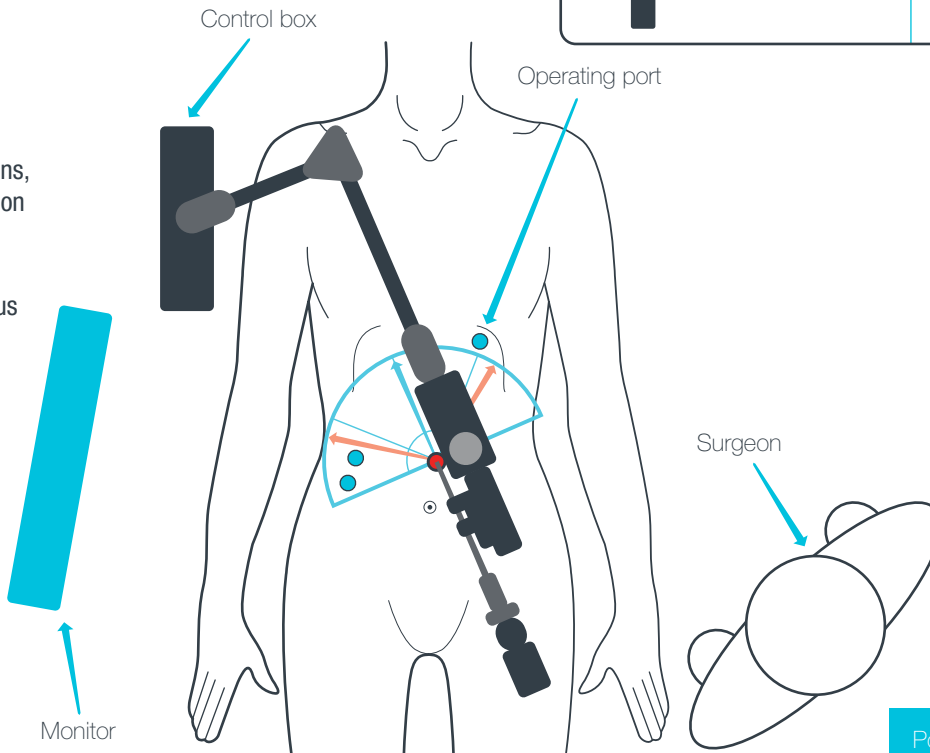
# How to get the robot correctly positioned

## Illustrative final set-up

| keycode   |   |
|---|---|
|  camera port   |  operating port      |
|  scope + camera |  arm and motion unit |
|  control box    |   |

- Identify operating port positions, position of monitor and surgeon + scrub nurse +/- assistants
- Ideally set up in dry lab and check with surgeon no obvious port/instrument clashes

NB Example shown is one example for a laparoscopic cholecystectomy. Please use the new guide to assist in possible positions for other procedures



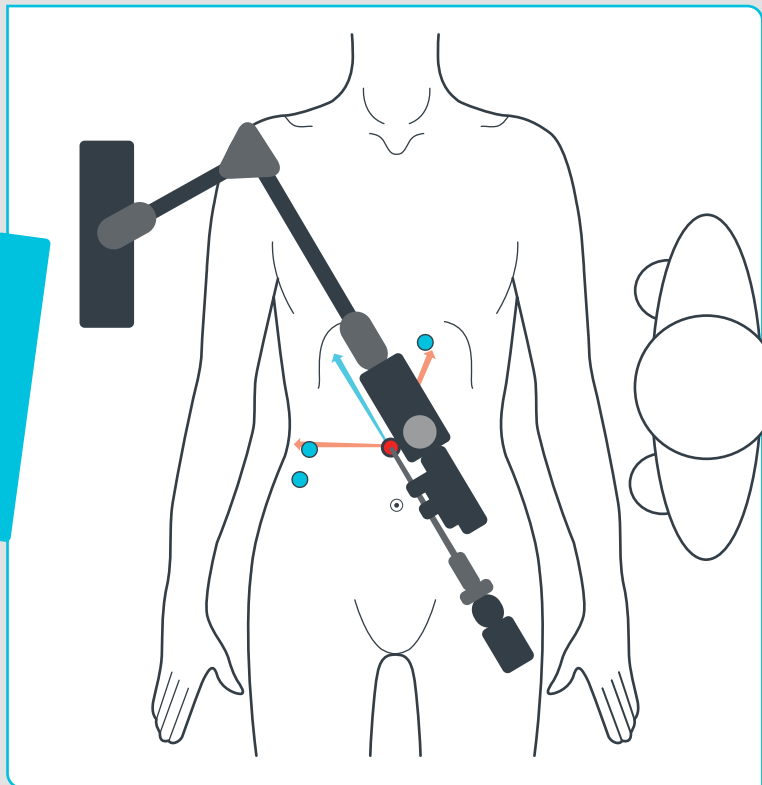


## SUPINE POSITIONS










# CHOLECYSTECTOMY

## Final set-up with possible port positions



### keycode

|   |   |
|---|---|
|  camera port   |  operating port      |
|  scope + camera |  arm and motion unit |
|  control box    |   |
|  monitor        |   |
|  surgeon       |   |

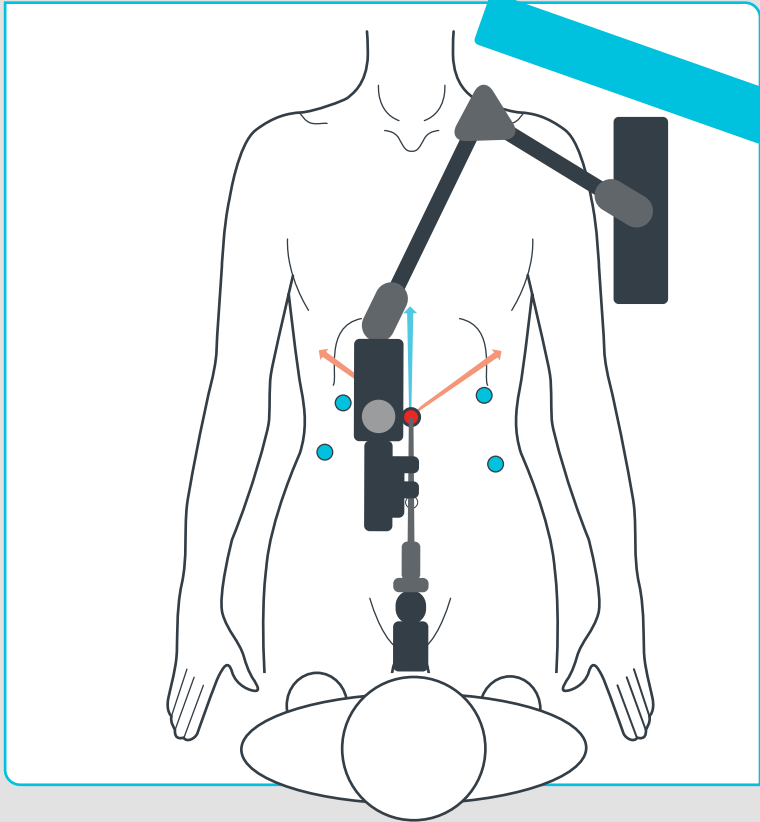
### Notes:-




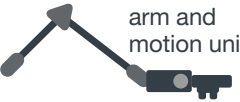



- Check port positions with surgeon!
- Some surgeons stand between the patient's legs.



# FUNDOPLICATION

## Final set-up with possible port positions



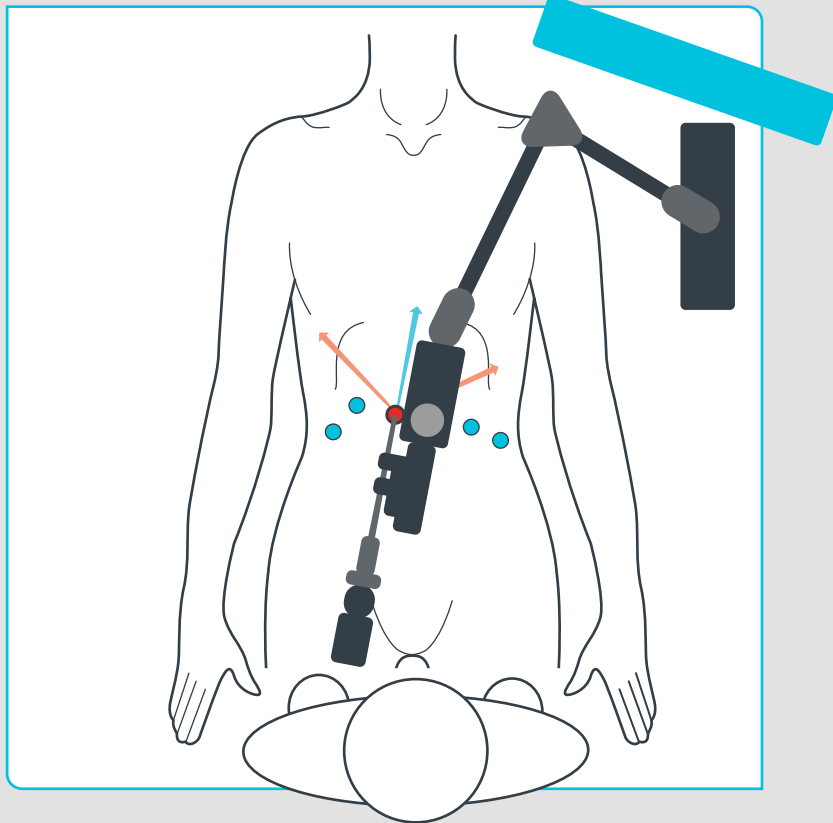
| keycode   |   |
|---|---|
|  camera port   |  operating port      |
|  scope + camera |  arm and motion unit |
|  control box    |   |
|  monitor        |   |
|  surgeon       |   |

### Notes:-

- Check port positions with surgeon!
- Some surgeons stand at the left hand side of the patient.
- Box can be on patient's right.

# GASTRIC BYPASS

## Final set-up with possible port positions



### keycode

● camera port

● operating port

— scope + camera

■ control box

■ monitor

arm and motion unit

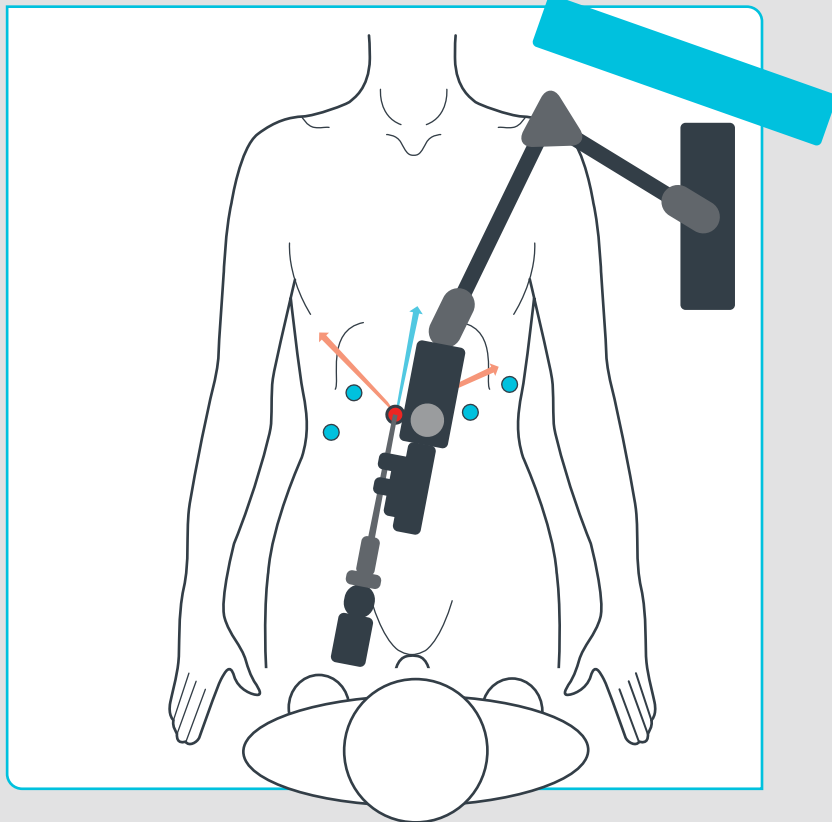
surgeon

### Notes:-

- Check port positions with surgeon!
- Neutral mid-line usually slightly off-centre.
- Some surgeons stand at the right hand side of the patient.
- Box can be on patient's right.

# GASTRIC SLEEVE RESECTION

## Final set-up with possible port positions



### keycode

● camera port

● operating port

— scope + camera

■ control box

■ monitor

arm and motion unit

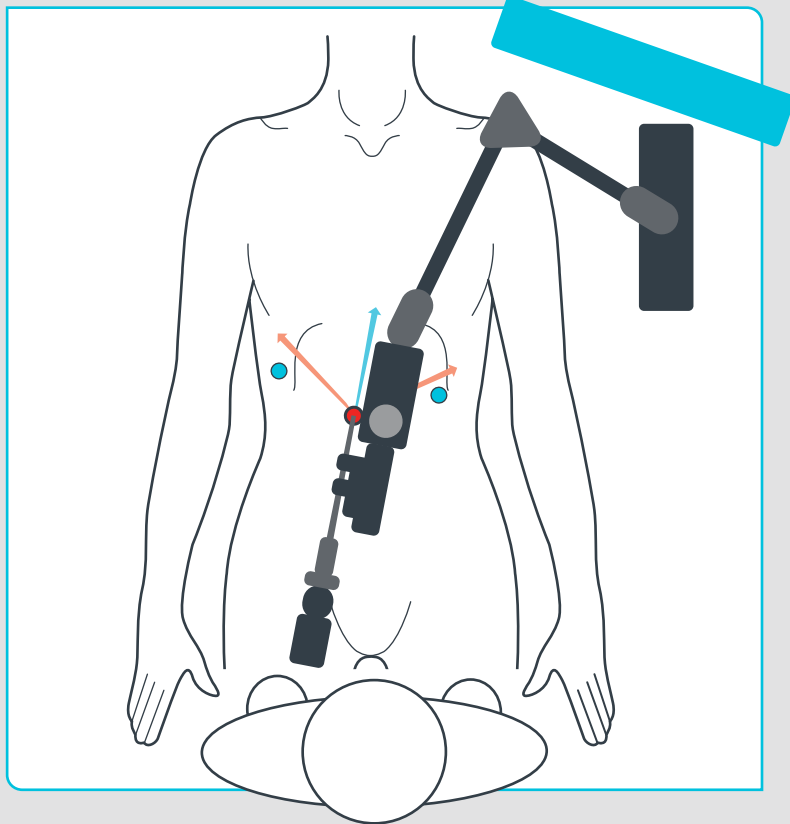
surgeon

### Notes:-

- Check port positions with surgeon!
- Neutral mid-line usually slightly off-centre.
- Some surgeons stand at the right hand side of the patient.
- Box can be on patient's right.

# GASTRIC BAND OPERATION

## Final set-up with possible port positions



### keycode

● camera port

● operating port

— scope + camera

— control box

— monitor

— arm and motion unit

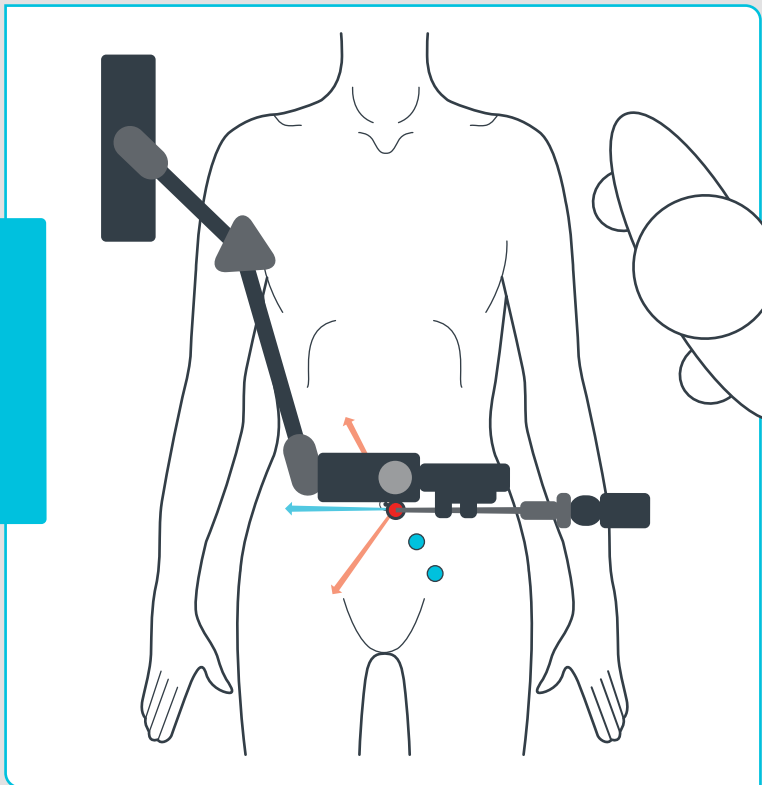
— surgeon

### Notes:-

- Check port positions with surgeon!
- Neutral mid-line usually slightly off-centre.
- Some surgeons stand at the right hand side of the patient.
- Box can be on patient's right.

# APPENDECTOMY

## Final set-up with possible port positions



### keycode

● camera port

● operating port

— scope + camera

■ control box

■ monitor

arm and motion unit

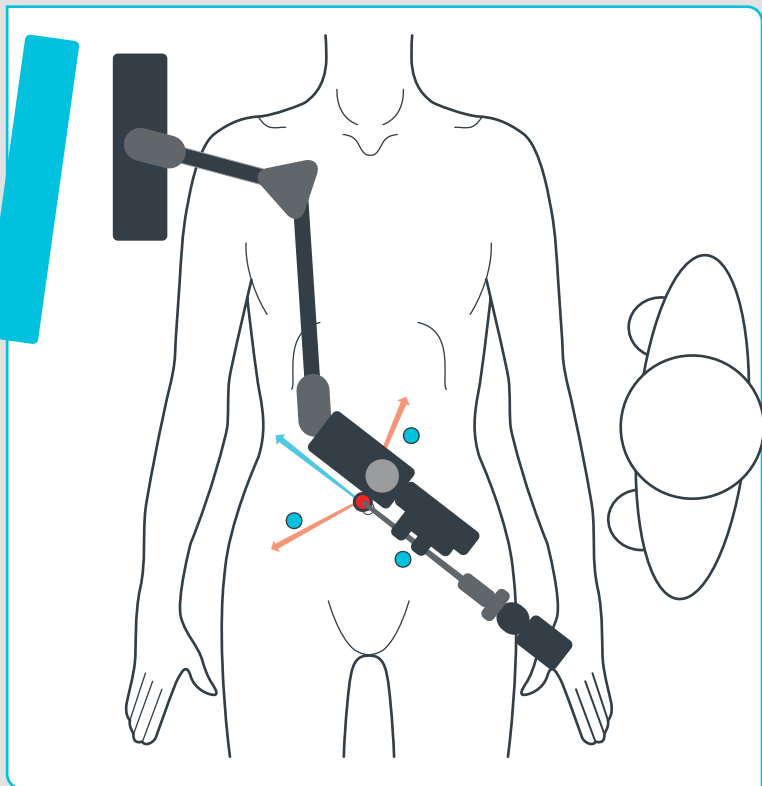
surgeon

### Notes:-

- Check port positions with surgeon!
- Shows segmental approach of instruments. Many surgeons will triangulate their instruments.

# RIGHT HEMICOLECTOMY

## Final set-up with possible port positions



### keycode

● camera port

● operating port

— scope + camera

■ control box

■ monitor

arm and motion unit

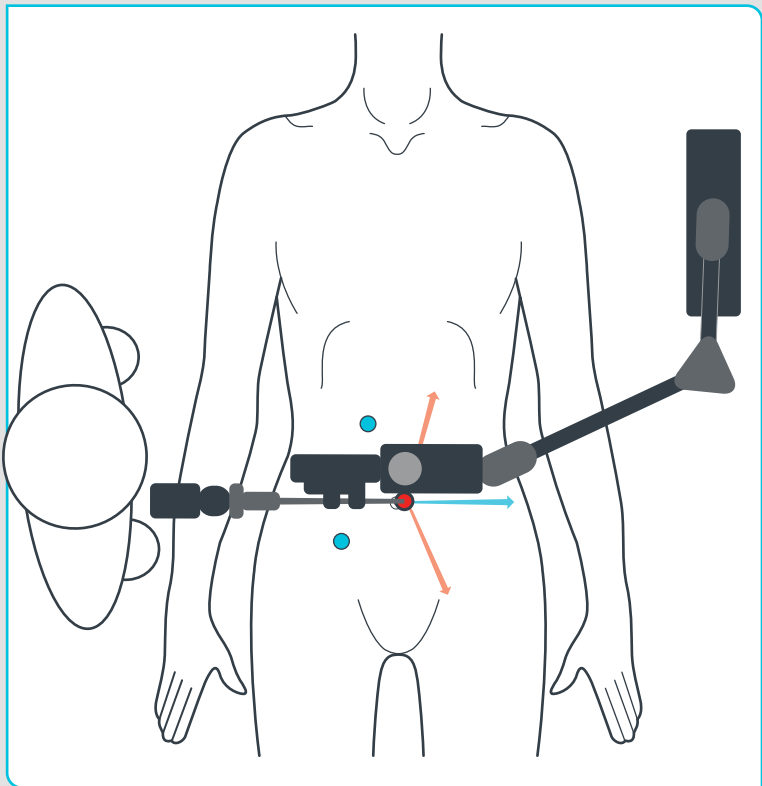
surgeon

Notes:-

- Check port positions with surgeon!

# LEFT HEMICOLECTOMY

## Final set-up with possible port positions



### keycode

● camera port

● operating port

— scope + camera

■ control box

■ monitor

arm and motion unit

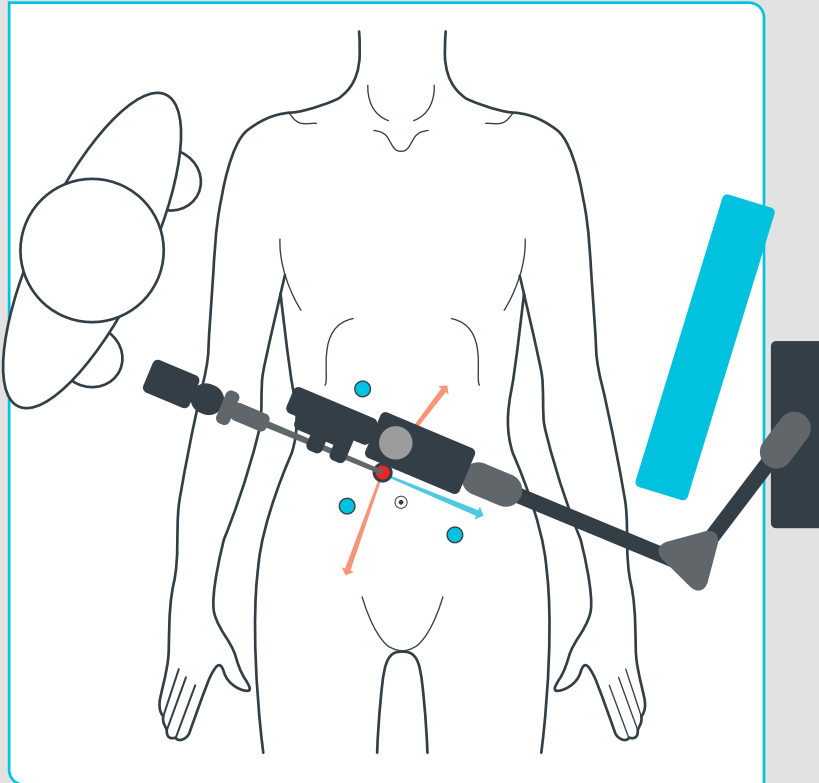
surgeon

Notes:-

- Check port positions with surgeon!

# ANTERIOR RESECTION

## Final set-up with possible port positions



### keycode

● camera port

● operating port

— scope + camera

■ control box

■ monitor

arm and motion unit

surgeon

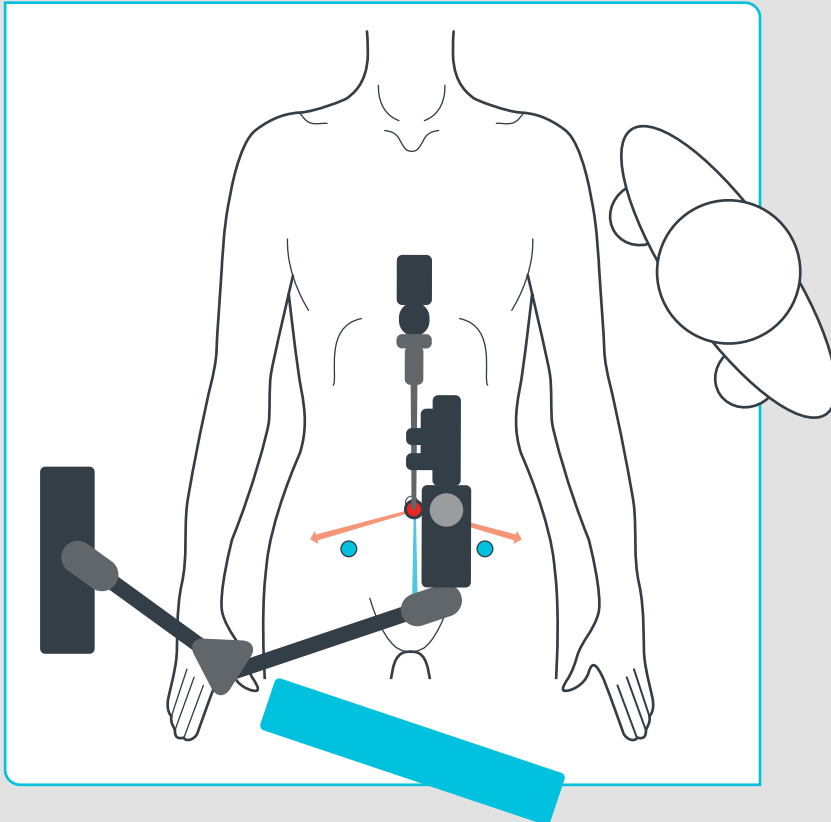
### Notes:-




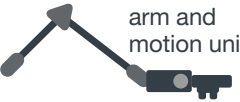



- Check port positions with surgeon!
- easier to use FreeHand with 3-port procedure, rather than 4-port.



# INGUINAL HERNIA-TAPP

## Final set-up with possible port positions



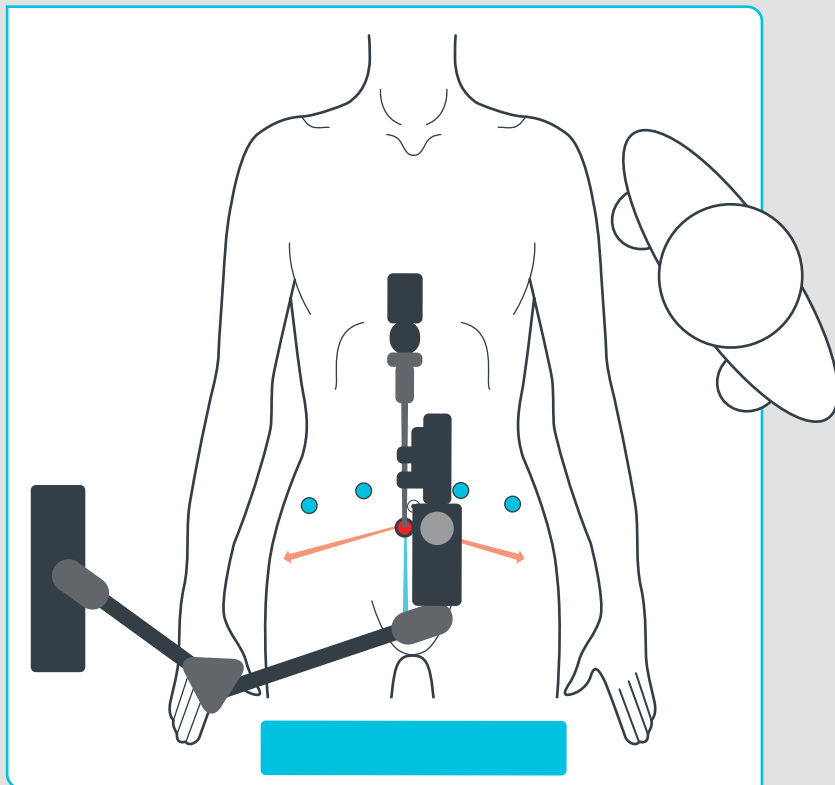
| keycode   |   |
|---|---|
|  camera port   |  operating port      |
|  scope + camera |  arm and motion unit |
|  control box    |   |
|  monitor        |   |
|  surgeon       |   |

### Notes:-

- Shows set up for right inguinal hernia.
- Check port positions with surgeon!
- Configuration may be used for L, R or bilateral inguinal hernias.
- Box may be either side for a bilateral hernia.
- Box usually on patient's right for a R hernia and on the patient's left for a L hernia.
- Camera might be in lateral port.

# LRP-TRANSPERITONEAL

## Final set-up with possible port positions



### keycode

● camera port

● operating port

— scope + camera

■ control box

■ monitor

— arm and motion unit

○ surgeon

### Notes:-

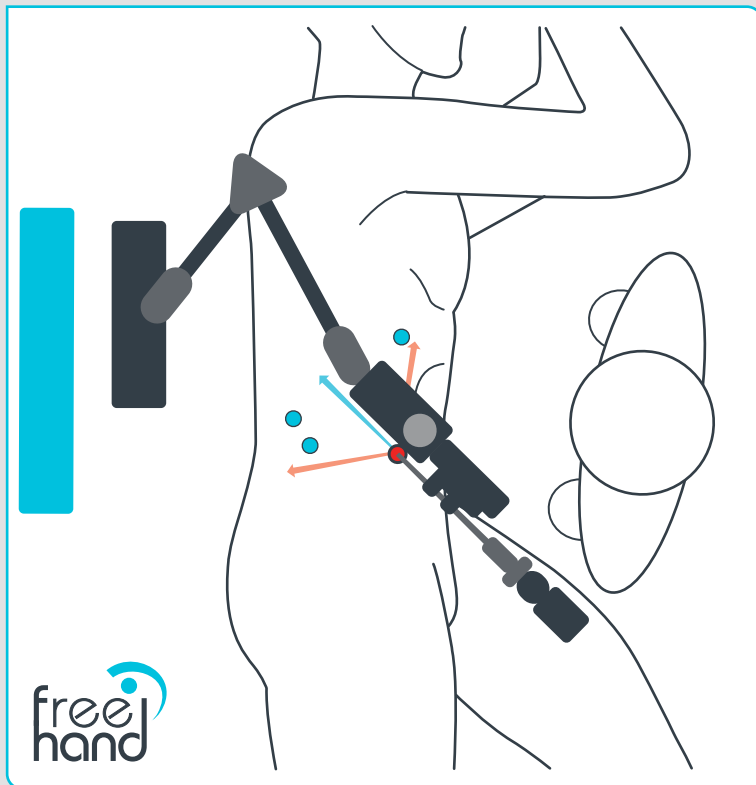
- Check port positions with surgeon!
- Transperitoneal approach shown. For Retro/Extra peritoneal approach ports are generally lower.
- Box can be on patient's left.

# LATERAL POSITIONS



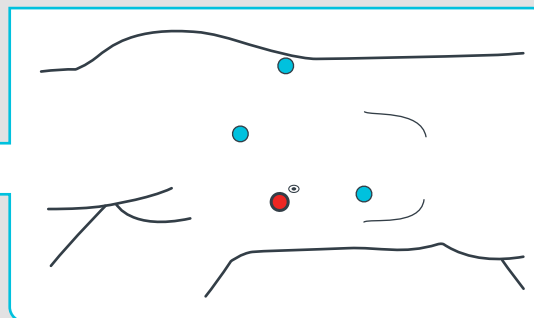
# NEPHRECTOMY-TRANSPERITONEAL

## Final set-up with possible port positions



### keycode

|                |                     |
|----------------|---------------------|
| camera port    | operating port      |
| scope + camera | arm and motion unit |
| control box    |                     |
| monitor        |                     |
| surgeon        |                     |

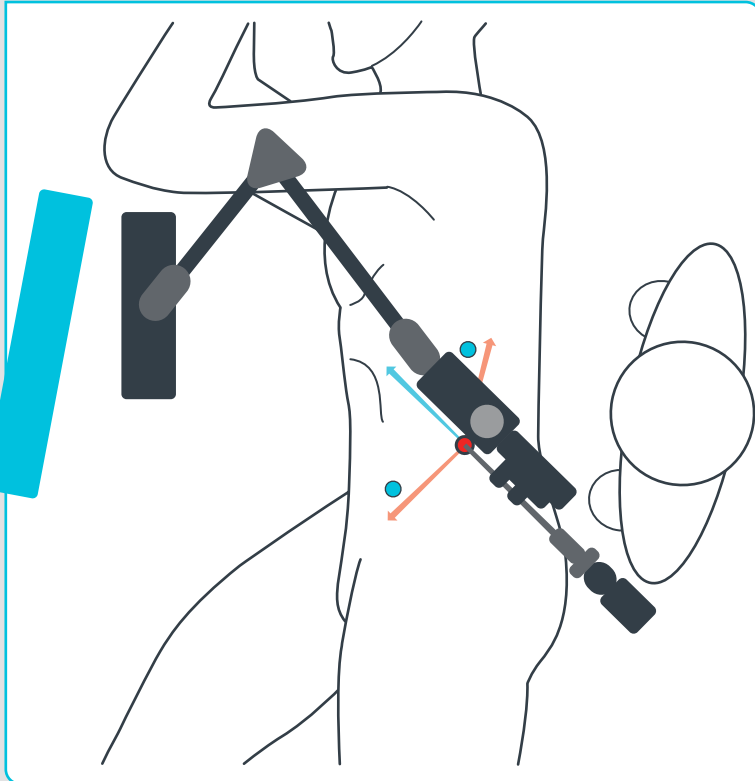


### Notes:-

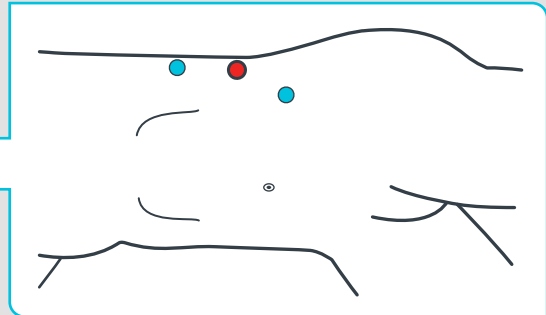
- Check port positions with surgeon!
- Left kidney is mirror image of right, but with only 3 ports.
- RMA comes over the patient and is angled down, parallel with the abdomen.

# NEPHRECTOMY-R-EX-PERITONEAL

## Final set-up with possible port positions



| keycode        |                     |
|----------------|---------------------|
| camera port    | operating port      |
| scope + camera | arm and motion unit |
| control box    |                     |
| monitor        |                     |
| surgeon        |                     |

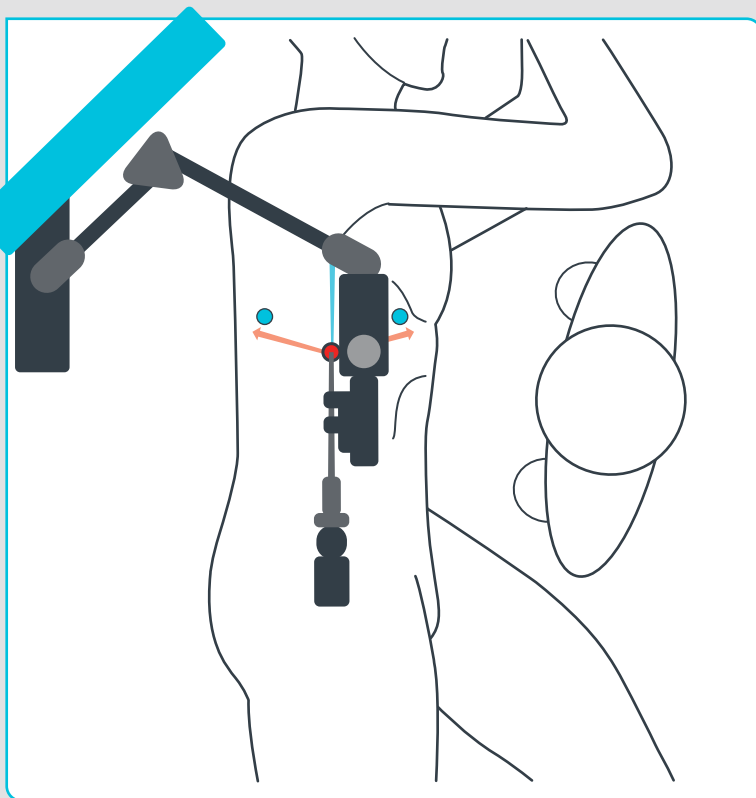


### Notes:-

- Check port positions with surgeon!
- Right kidney is mirror image of left, but with 4 ports.

# VATS

## Final set-up with possible port positions



### keycode

● camera port

● operating port

— scope + camera

■ control box

■ monitor

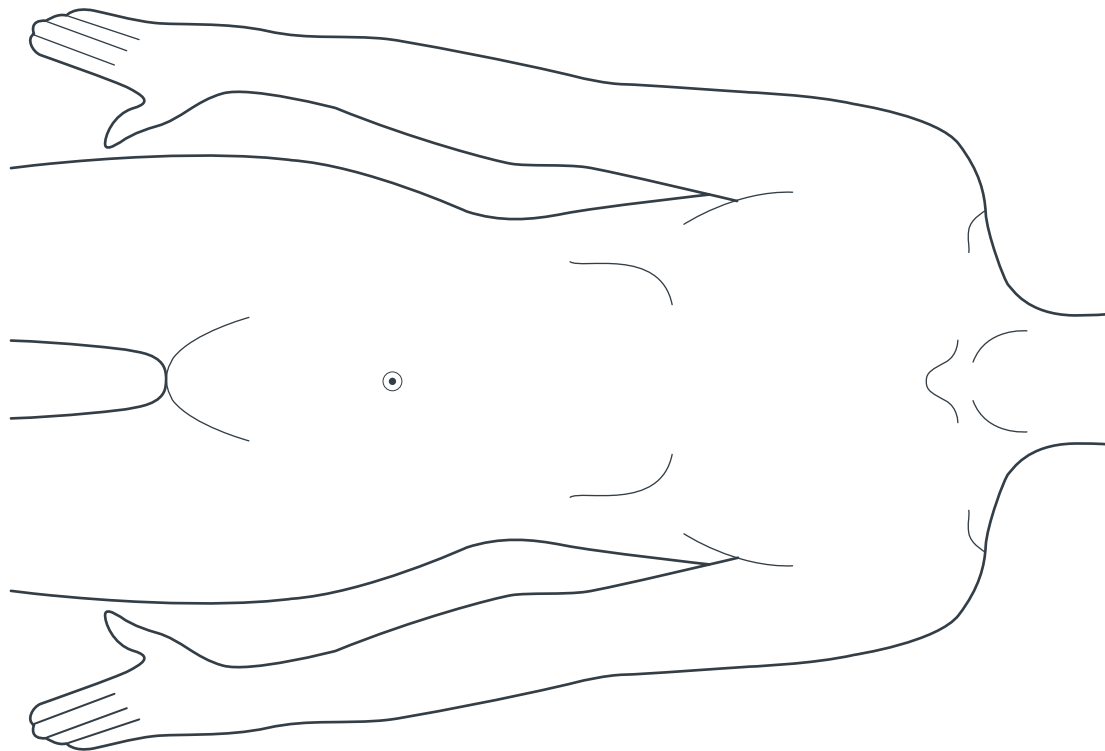
arm and motion unit

surgeon

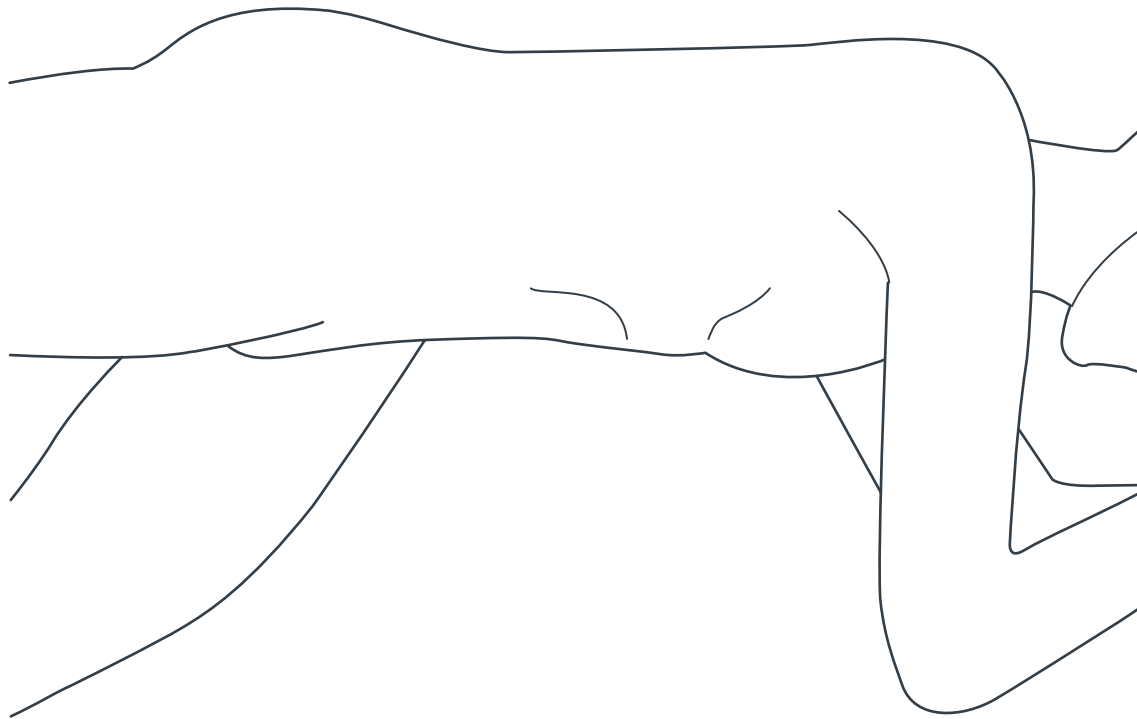
### Notes:-

- Check port positions with surgeon!
- Left VATS is mirror image of right.
- Surgeon may be on either side of the table.

# TEMPLATE 1

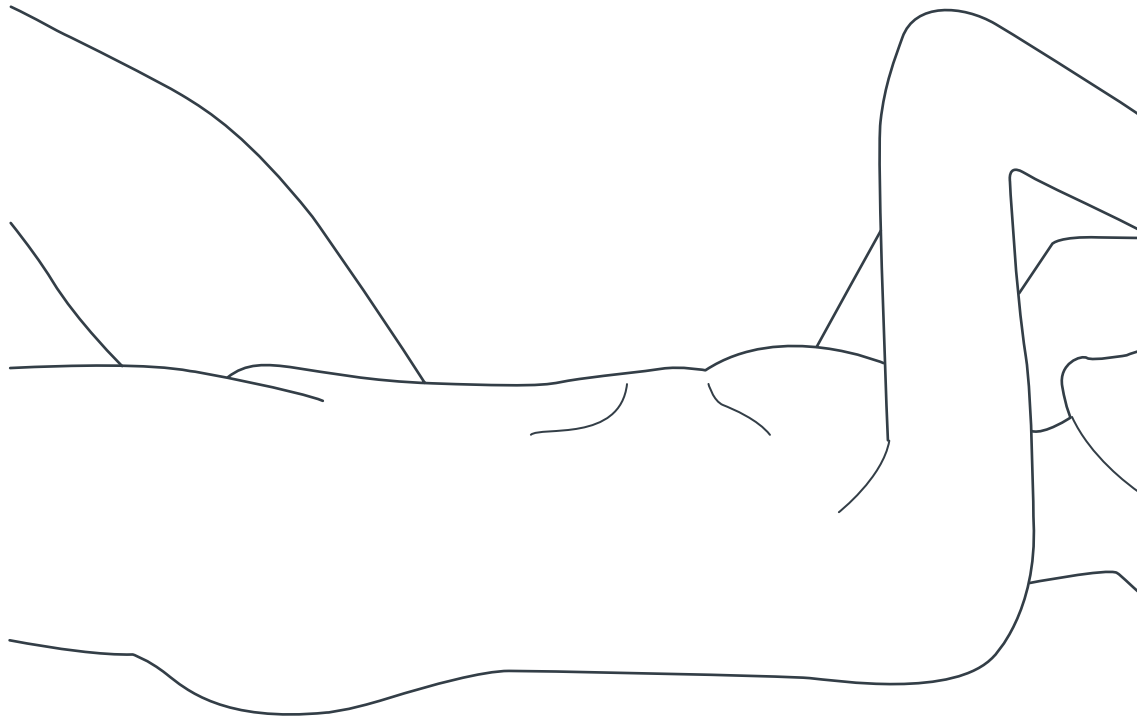


## TEMPLATE 2





# TEMPLATE 3





The logo for 'Freehand' features the word 'free' stacked above 'hand' in a lowercase, sans-serif font. A stylized blue graphic element, consisting of a curved line with a dot at its top, arches over the 'ee' in 'free' and the 'd' in 'hand', resembling a hand-drawn flourish or a stylized 'i'.

## CONTACT INFORMATION

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