

Basic Training Course for Robotic Console Surgeon

Standard Da Vinci Surgical System Setup Tutorial

Materials:

Power point slide presentation	Laparoscopes (0°, 30°)	5 Instruments
Torso trainer	3 Sterile adapters Instrument arm drape	(2 needle drivers, 1 scissors,
	Camera arm drape	1 Prograsp,
	3 trocars	1 Maryland)

Port Layout, Terminology and Insertion Guidelines:

da Vinci Camera Port should be placed approximately 20 cm from target anatomy.

Cone of 60 degrees:

No instruments should be placed within a 60 degree cone from camera port (dashed triangle).

Bladeless Trocar



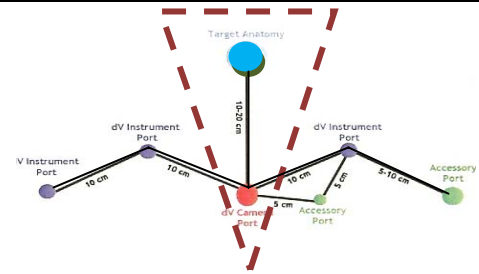
da Vinci Instrument Ports: Placed minimally 10 cm away from Camera Port or other ports, accessory ports can be 5 cm from any other port.

Protected blade Trocar



Remote Center: Decreases tension on patient skin and should be placed in the muscle layer of the abdomen.

Remote Center (Thick black line)



Positioning Bedside Surgical Cart:

DOCKING

Position arms high enough to clear patient. Identify obstacles in the path, lower OR table. Direct center column of cart toward target organ.

Align Camera port, target anatomy and surgical cart center column.

Position patient and OR table with tilting the bed as needed.

Lock wheels once cart is in position.

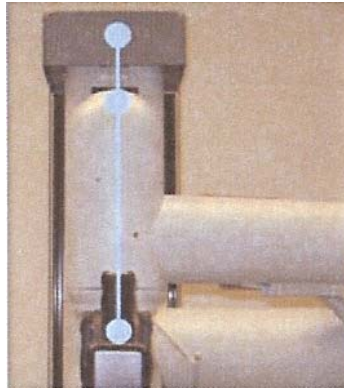
Camera Arm Placement and Coupling Guidelines:

DOCKING

Place setup joint of camera arm opposite to the 4th arm.

10 cm (about 1 fist width) between the black bumper on center column of bedside cart and the camera arm- this is called the "Sweet Spot".

Align Camera Arm Setup joint release grip with the 3rd set up joint and center column.



Dock Camera arm by

- 1) Lower camera arm down to camera cannula by continually holding the setup release button.
- 2) Change angle of cannula to point toward target anatomy by pressing the clutch button
- 3) Stabilize cannula at port site with one hand while repositioning closing camera arm clasp around cannula with other hand

Instrument Arm Positioning and Coupling Guidelines:

Check that arms are at 90° angle to maximize range of motion, separate instrument arms to minimize interferences.

Dock arm using Instrument arm Setup joint Release buttons ONLY.

Stabilize cannula at port site with one hand when docking. Rock cannula in to cannula mount, when flush screw in cannula keeping the remote center within the muscle layer.

4th arm should be horizontal (parallel with the floor) and still be 90° from the camera arm.

Equipment Terminology Preparation and Bedside Cart Function:

Place Laparoscopes 0° or 30° into 12mm port.
Place Sterile Drapes on instrument arm and place sterile adaptors.
Know the parts of the Bedside cart and Vision cart:

Camera cannula (disposable trocar)

Place sterile adapter on bottom silver bars (like a bird on a perch), press top of adapter against arm with both thumbs at top.

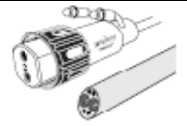
Endoscope Cannula mount (Da Vinci S/Si system)



Setup joint buttons



0° Laparoscope



30° Laparoscope

Camera Sterile Adapter (da Vinci Standard system)



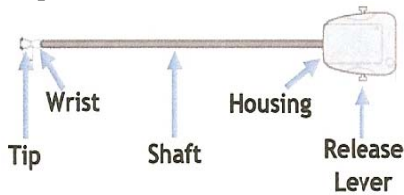
Instrument Sterile Adapter



Light Guide Cables

**Instrument Terminology and Insertion:**

- 1) Straighten instrument wrist
- 2) Close instrument tips
- 3) Insert instrument tip into cannula.
- 4) Slide instrument into sterile adapter.



- 5) Press instrument clutch button
- 6) Insert instrument under direct vision
- 7) When instrument has reached desired location press instrument clutch button
- 8) To remove instrument surgeon should straighten instrument slightly and open instrument jaws.

Know the Instruments:

- A. Needle driver
- B. Curved Scissors
- C. Maryland forceps
- D. Prograsp forceps



B.



C.



D.



A.

Terminology and Console function:

Know the parts of the Console:



Clutch Peddle
Camera Peddle
Focus bar
Cautery Peddle



Left Side:
Scope angle button
Console height adjust buttons
Fault Reset button



Right Side:
On/Off button
Ready button
Emergency Stop button

Verification of Proficiency-Tutorial Components

Port Placement	Verbalizes distance of camera port from target anatomy	<input type="checkbox"/> Needs more practice <input type="checkbox"/> Meets expectations <input type="checkbox"/> Exceeds expectations
	Verbalizes distance of instrument arms from camera port	<input type="checkbox"/> Needs more practice <input type="checkbox"/> Meets expectations <input type="checkbox"/> Exceeds expectations
	Verbalizes understanding of optimal triangulation (cone of 60 degrees)	<input type="checkbox"/> Needs more practice <input type="checkbox"/> Meets expectations <input type="checkbox"/> Exceeds expectations
Bedside cart Placement	Demonstrates proper Bedside cart positioning without running into obstacles, OR table or patient	<input type="checkbox"/> Needs more practice <input type="checkbox"/> Meets expectations <input type="checkbox"/> Exceeds expectations
Equipment Preparation	Demonstrates proper placement of sterile adapter and instrument insertion	<input type="checkbox"/> Needs more practice <input type="checkbox"/> Meets expectations <input type="checkbox"/> Exceeds expectations
	Demonstrates proper guided tool exchange	<input type="checkbox"/> Needs more practice <input type="checkbox"/> Meets expectations <input type="checkbox"/> Exceeds expectations
Arms Positioning	Demonstrates proper camera arm placement relative to 4 th arm	<input type="checkbox"/> Needs more practice <input type="checkbox"/> Meets expectations <input type="checkbox"/> Exceeds expectations
	Demonstrates positioning of camera arm in “Sweet Spot” (distance from black bumper)	<input type="checkbox"/> Needs more practice <input type="checkbox"/> Meets expectations <input type="checkbox"/> Exceeds expectations
	Demonstrates proper docking of camera arm maintaining alignment of Camera cannula, target anatomy and surgical cart center column	<input type="checkbox"/> Needs more practice <input type="checkbox"/> Meets expectations <input type="checkbox"/> Exceeds expectations
	Demonstrates proper docking of instrument arm	<input type="checkbox"/> Needs more practice <input type="checkbox"/> Meets expectations <input type="checkbox"/> Exceeds expectations
	Demonstrates proper placement of the 4 th arm in relation to floor	<input type="checkbox"/> Needs more practice <input type="checkbox"/> Meets expectations <input type="checkbox"/> Exceeds expectations

Console (Incorporated in tasks)	Prepares console for different angled scope by pressing which button?	<input type="checkbox"/> Needs more practice <input type="checkbox"/> Meets expectations <input type="checkbox"/> Exceeds expectations
	Activates system by pressing ready button	<input type="checkbox"/> Needs more practice <input type="checkbox"/> Meets expectations <input type="checkbox"/> Exceeds expectations
	Demonstrates use of clutch	<input type="checkbox"/> Needs more practice <input type="checkbox"/> Meets expectations <input type="checkbox"/> Exceeds expectations
	Demonstrates correct use of camera	<input type="checkbox"/> Needs more practice <input type="checkbox"/> Meets expectations <input type="checkbox"/> Exceeds expectations