APPENDIX 3v

LOT 22 SPECIFICATION
RIGID ENDOSCOPES AND ASSOCIATED OPTIONS AND RELATED SERVICES

1. Introduction

1.1. This Lot is for the supply of rigid endoscopes including laparoscopes, arthroscopes & high definition camera systems.

1.2. The core product lines within this Lot are as follows:

Line Number	
1	Laparoscopes
2	Arthroscopes
3	High Definition Camera System
4	Endoscopy Holding Device

1.3. All product line(s) must be supplied with a minimum 7 year expected lifecycle under proper use and maintenance.

2. Line 1 - Laparoscopes

2.1. Laparoscopy is a type of surgical procedure that allows a surgeon to access the inside of the abdomen and pelvis without having to make large incisions in the skin. This procedure is also known as keyhole surgery or minimally invasive surgery.

2.2. This is the core technical specification for laparoscopes which must enable a magnified internal view of the organs and tissue within the abdomen and must have the following features:

2.2.1. Incorporate a lens which may be video, fibre optic, rod lens, CCD chip or a combination of these options.

2.2.2. The lens must be surrounded by optical fibres sealed within a rigid tube which has an eye piece connected to one end for viewing by the user.

2.2.3. The angle of view must be either 0° to 45°.

2.2.4. Working lengths between 28cm and 33cm must be available.

2.2.5. Outer diameters must be 5mm or greater.

2.2.6. Incorporate prisms or mirrors to transmit reflected light from the tissue through one or more bends to the eye piece.

2.2.7. Have optical light transmission.

2.2.8. Be capable of reprocessing by any of these methods: autoclave, ethylene oxide & steam or liquid.

3. Line 2 – Arthroscopes

3.1. Arthroscopes are scope which are introduced into a joint space through a small incision to carry out diagnostic and treatment procedures within the joint.

3.2. This is the core technical specification for arthroscopes which must enable a magnified internal view of the joints of the body, particularly knees, hips and shoulders and must have the following features:
- 3.2.1. Utilise either a rod-lens system or single-image fibre system with optical light transmission.
- 3.2.2. The magnifying lens system must be sealed within a rigid or semi-rigid tube.
- 3.2.3. The lens system is to be surrounded by optical fibres that transmit light to the interior of the joint from the light source.
- 3.2.4. Outer diameters between 2.0mm and 4.0mm must be available.
- 3.2.5. An angle of view of either 0°, 45°, 30° or 70°.
- 3.2.6. Working lengths between 15cm and 18cm must be available
- 3.2.7. Be capable of reprocessing by any of these methods:
  - 3.2.7.1. Autoclave
  - 3.2.7.2. Ethylene Oxide
  - 3.2.7.3. Steam or Liquid

4. Line 3 – High Definition Camera System

4.1. High definition camera systems are used to produce still and video images in the surgical field during surgical endoscopic procedures.

4.2. The system must include the following:
- 4.2.1. HD camera head.
- 4.2.2. Camera control unit.
- 4.2.3. Operating monitor.
- 4.2.4. Light source.
- 4.2.5. HD image capture system.
- 4.2.6. Electronic CO_2 insufflator.
- 4.2.7. Video cart.

4.3. HD camera head:
- 4.3.1. Must have high definition resolution i.e. single chip or 3 chip with a minimum resolution of 1920x1080i/p.
- 4.3.2. Camera functions must be controllable from the camera head and include control of the light source and image capture system.

4.4. Camera control unit:
- 4.4.1. Must be capable of producing HD images.
- 4.4.2. HD video output must be permanently available.

4.5. Operating monitor:
- 4.5.1. The monitor must use one of the following technologies:

4.5.1.1. OLED
4.5.1.2. LED
4.5.1.3. LCD

4.5.2. It must be possible to display picture in picture images.
4.5.3. Monitor resolution must be a minimum of 1920x1080i/p.
4.5.4. Viewing angle must be no less than 170 degrees.
4.5.5. DVI-D, DVI-I, HDSDI and 3GSDI HD inputs must be permanently available.
4.5.6. Any mounting supplied must be to VESA 100 standard.
4.5.7. The monitor must have the ability to provide images to a secondary monitor with the same HD quality as primary monitor.
4.5.8. The monitor must be able to offer wireless connectivity to secondary monitors (with use of wireless receiver and transmitter).

4.6. Light source:

4.6.1. The Light Source must use Halogen, LED or Xenon Light Technology with sufficient output for HD imaging technology.
4.6.2. The light source must not be brand specific for cables and must be able to utilise light cables from any manufacturer.
4.6.3. To ensure patient safety it must be possible to switch the light source to standby from the front panel or camera head.

4.7. HD image capture system:

4.7.1. The system must have the ability to capture high definition 1920x1080i/p resolution still images in an industry standard format such as JPEG/BMP.
4.7.2. The system must have the ability to capture 1920x1080i/p video sequences in an industry standard format such as MPEG.
4.7.3. The system must have the ability to transfer captured data to a storage medium (e.g. optical disk, USB storage devices, file transfer protocol (FTP) servers or DICOM/Picture Archive and Communications (PACS) servers.
4.7.4. The system must be able to enter patient demographics either manually or via DICOM/HL7 Query.
4.7.5. Control of the system must be via a touch screen, complete with the endoscopic image and patient demographics.
4.7.6. The system must be capable of printing captured images with full patient details for inclusion within patient notes onto A4 photographic paper, either during the procedure or upon completion of the procedure.
4.7.7. The system must be able to review the patient's previous medical records on system archive or via DICOM/PACS connectivity.
4.7.8. A full HD (1080i/P) dual channel image management system is required to provide still image capture and simultaneous recording.

4.8. Electronic CO_2 insufflator:

4.8.1. The insufflator must have a high flow system capable of providing a flow rate of between 20 and 45 litres per minute.

4.8.2. The insufflator must have a display showing intra-abdominal pressure, flow rate and gas volume supplied.
4.8.3. The insufflator must have an overpressure safety system with an audible warning.
4.8.4. The insufflator must enable connection to the gas bottle via a hose, either fitted with pin index connector or a central gas supply.

4.9. Video Cart
4.9.1. The video cart must be supplied with an isolation transformer.
4.9.2. The video cart must have easily moveable, full swivel wheels with foot pedal-controlled swivel locks available on at least two wheels and foot pedal-controlled brakes available on at least two wheels.
4.9.3. The video cart must be capable of mounting an articulating arm with a VESA100 mount to enable the movement and repositioning of a monitor for different surgical specialities.
4.9.4. The video cart must have a facility to safely and securely mount a camera head.
4.9.5. The video cart must have provision for mounting a CO_2 gas bottle.
4.9.6. The video cart must have storage provision.

5. Line 4 – Endoscopy Holding Device

5.1. A holding device for open as well as minimally invasive surgery, neurosurgery, orthopaedics and traumatology to be used with endoscopy equipment.

5.2. This is the core technical specification for a holding device designed to be used in association with endoscopy equipment during medical procedures which must have the following features:
5.2.1. 2.5kg holding force.
5.2.2. 330° freedom of movement.