

SALIENT CHARACTERISTICS SURGICAL SCOPE LEASING

1. **LEASE EQUIPMENT SPECIFICATIONS:** The following equipment shall be made available for lease:

Digital Capture Device

- Must be able to connect and control camera, light source, arthroscopic shaver, arthroscopic RF, and arthroscopic pump.
- Must be able to control interface through camera head in the surgical field—surgeon can control connected clinical devices directly from the camera head.
- Must be able to display critical device status onto surgical monitors: Connects to each clinical device (arthroscopic shaver, pump, RF generator, light source, camera), and displays critical device status on the surgical monitor being used in the sterile field.
- Must have device status display options (pump and insufflation preset pressure, pump and insufflation actual pressure, camera and light source light levels, arthroscopic shaver RPM's, arthroscopic shaver resection mode, digital capture disc usage and recording formats).
- Must be able to customize printing, saving, and clinical device setup/control for each surgeon with user profiles.
- Must have the Integrated Surgical Timeout feature: Pre-loaded with standard surgical timeout requirements, customizable per facility, displays surgical timeout questions on all monitors displayed.
- Must enable electronic documentation of surgical timeout feature and full-staff participation, and saved to the patient's electronic file.
- Must store surgeon profile settings for:
 - Clinical device preferences
 - Arthroscopic shaver RPM's
 - Arthroscopic pump critical pressure settings
 - Surgical display color preference settings
 - Camera system color/light preference settings
 - Light source power intensity settings

Surgical Camera

- Must be High Definition video with 1920x1080p native resolution
- Must include CMOS 3-Chip camera technology designed for enhanced light sensitivity and increased patient safety
- Camera must have Integrated Device Control from the camera head
- Must have 4 Programmable buttons on the camera head to control pictures, video, and Light Source
- Must have Four Camera Head Configurations (Standard (45 deg), Inline, Urology, Integrated)
- Must have integrated enhancement for improved image brightness
- Must have integrated desaturation to desaturate red coloration in particularly red cases
- Must be able to control ICG viewing from the camera head buttons including backlighting and ICG laser adjustments
- Must have programmable color settings and button function settings per surgical specialty
- Must have 18mm stainless steel coupler with single-handed focusing design
- Must include 9 Surgical Specialties - optimized performance to address the specific color and lighting needs of individual surgical procedures
- Must be ergonomic and have a lightweight design for minimally invasive surgery

Surgical Video Display

- Surgical monitor must be at least 26" Display with LED Back Light
- Monitor must have 16:9 aspect ratio
- Monitor must have 1920 x 1080 native resolution
- Monitor must have 9 preset specialty settings
- Must have On-screen user interface with shortcut keys
- Must include custom gamma curves
- Must have an integrated protective screen layer with 3H hardness
- Must have double-sided anti-reflective coating
- Must have built-in handles to aid in monitor
- Must have the following inputs: DVI, VGA, HD/SD-SDI, C-Video, S-Video, Component
- Must have the capability of Picture in Picture, Picture by Picture, & Picture on Picture

4K Surgical Display

- Surgical monitor must have 4X the resolution of a 1080p image
- Monitor must have 4K pixel density to offer a bright, colorful viewing experience
- Must be 23.1 lbs. or less for easy installation in both integrated and cart-based rooms
- Must include multiple input options for use with a variety of visualization equipment

Light Source

- Must maintain strong white light output over course of use
- Must be able to control over the Light Source directly from the camera head
- Must enable users to visualize white light, Infrared light, and ICG fluorescence
- Must have Integrated Infrared lighted fibers and integrated ICG fluorescence capability
- Must have adjustable light intensity in both white light mode and in ENV mode
- Must have Safelight technology designed to increase patient safety
- Must have intuitive capacitive LED touch screen user interface
- Must be indicated for use to provide real-time endoscopic visibility and near-infrared fluorescence imaging
- Must enable surgeons to perform minimally invasive surgery using standard endoscopic visible light
- Must provide enhanced visual assessment of vessels, blood flow and related tissue perfusion, in addition to bile duct visualization with the use of near-infrared imaging

Insufflator

- Must have 6 Unique Operating Modes dedicated to surgical specialties. Each operating mode utilizes pressure settings and flow rates designed to maintain stable pneumoperitoneum.
- Must have Integrated Smoke Evacuation to provide consistently clear images through a smart inflow and outflow management system, designed to maintain stability while actively evacuating smoke.
- Must include four controlled levels of smoke evacuation that filter out 99.999% of all particles greater than 0.1 micrometer help protect patients and staff from the harmful carcinogens found in surgical plume.
- Must have Integrated Heating and Humidification: Gas heating allows CO2 to warm to core body temperature before entering the patient, designed to minimize laparoscope fogging
- Must have the ability to control connected devices, including the insufflator, from the sterile field using the camera head, remote control, touch panel, and voice control headset. This includes control over insufflator flow rates, pressure settings, and smoke evacuation levels.

- Must include desufflation

Printer

- Must be a Medical Grade Color Printer
- Must have Dye-Sublimated Thermal Printing
- Must have Self-Laminating Media
- Must have 8-Bit Processing Gradations
- Must include A4 and Letter Size Printing Options

Arthroscopic Resection System

- Must be able to combine RF and shaver control in one complete console
- Must be able to customize settings for handpieces, footswitch, RF probes, and shaver
- Must be able to access three levels of constant voltage coagulation

Operating Room Surgical Light

- 360 degree light head rotation to provide unparalleled clinical maneuverability
- 102LED's in a Non Array based configuration of LED's
- 4 built in Color Options settings, 3600, 4000, 5000 & 5500k
- Built in Laparoscopic Guide Light feature
- Built in Wireless Camera
- Optimum Laminar Flow compliance with a rating of SWKI Class 5
- Ingress Protection from dust & water with a classification of IP 53
- Optional Integrated Ambient Light capability, Green or White Light option for Ambient Laparoscopic Lighting
- Optional Intuitive Interactive touch panel
- Surgical Lens Material must be Surgical Grade Medical Glass

Evacuation Chair

- Chair must be intended for evacuation in case of emergency.
- Chair must be able to hold 500 pounds going down stairs and be lifted up stairs (with lighter patients) if necessary.
- Chair must have tracks able to descend stairs and resist acceleration while under full capacity.
- Chair must have handles behind patient and extendable handles at patient's feet to allow 2 or more people to help with evacuation.
- Chair must have safety straps to hold patient on chair.
- Chair must keep patients in safe, comfortable sitting position when rolling on a flat floor or when descending stairs.
- Seat must be at a height similar to or slightly lower than wheelchair height to allow easy self-transfer from a wheelchair.
- Must have cover and ability to hang on wall for storage.
- Chair must have foot support that provides additional passenger security and stability, is easy to clean and decontaminate, and maintains compact footprint for maneuverability in tight spaces.

Corded Small Bone/Podiatry Hand Piece

- Must have a dedicated wire driver for small bone orthopedic procedures
- System must have available hand switch and/or foot pedal operation
- Must require no tools to load burs or blades
- Must be compatible with existing core console instrument driver

- Must have a removable hand switch to allow the same hand piece to be used for multiple functions.
- Console must be capable of operating two hand pieces at one time
- Sagittal saw must feature a rotating, indexing head to increase blade position versatility when cutting

Cordless Small Bone Power Tool

- Must have a modular small bone power system with a pencil grip and a pistol grip available
- Must include the following modular motors:
 - Sagittal saw
 - Oscillating saw
 - Reciprocating saw
 - Micro drill
 - Universal driver
- Battery modules must have a 30-day shelf life without losing power or performance
- Battery must be insulated to increase resistance thermal damage from sterilization
- Must include a light to indicate battery status
- Must be compatible with resurfacing tool burs

Large Bone Power Tool

- Batteries must have a 30-day shelf life after charging with no loss of performance
- Batteries, chargers, and hand pieces must be compatible with existing batteries, chargers, and attachments
- Battery charger must track hand piece performance
- Rotary hand piece must offer 157 in/lbs. of torque.
- Rotary hand piece must have a drilling and reaming switch
- Sagittal Saw must offer 12,000 cpm in fast mode, and 10,000 cpm in standard mode.
- Reciprocating Saw must allow for two cut speeds for more versatility. The saw must offer up to 14,000 cpm in fast mode, and up to 11,000 cpm in standard mode
- Cordless driver must offer a reaming attachment which allows higher torque reaming with a medium bone hand piece
- Hand pieces must weigh less than 2.5 lbs.
- Must offer dedicated hand pieces for sagittal saw, rotary drill, reciprocating saw, sabo saw, and cordless driver in order to decrease OR staff time spend changing drilling/cutting components
- Hand pieces must be fully submersible, preventing liquid prevention from normal use

Waste Management

- System must be continually closed, and utilize drip reduction manifolds with a backflow prevention valve
- Touch screen display must be at least 8.4", with an additional display of at least 7"
- Must include a powered IV
- Must include internal rotating power washers for system cleaning
- Must include an integrated smoke evacuator
- Must include an automated cleaning cycle that does not require additional OR staff operation
- Smoke evacuation filter must have up to 80 hours of smoke evacuation independent of fluid suction time

Instrument Driving Console

- Must be able to power small bone power tools, and high speed drills
- Must be compatible with existing power tools, and high speed drills
- Must be able to create over 100 user profiles which can be stored and transferred
- Must have adjustable acceleration and braking
- Must have software which can adjust torque, tactile feel, and drill precision/performance
- Must have adjustable irrigation flow rate
- Must have at least three foot-pedal choices
- Must have at least three hand piece ports
- Must run at least 2 heavy duty hand pieces simultaneously
- Must have colored illumination to match drills and foot pedals
- Must have distinct, different audio tones to denote different actions and alerts

High Speed Drills

- Drill must be compatible with existing instrument driver
- Motor construction must utilize flat wiring and triangular shaped magnets to reduce size and increase run time while remaining cool
- Must spin at least 75,000 rpm
- Must have at least 5.5 in/lbs. of stall torque
- Must be less than .7 inches in diameter
- Must weigh less than .673 lbs. including hose
- Must include an integrated irrigation attachment

Nerve Monitor

- Must have ability to be used in ENT, Neurosurgery, and general surgery
- Laryngeal electrodes must work with any non-silicone ET tube
- Nerve activity review must be available during procedure and stored within device for later review
- Must stimulate and map cranial, peripheral motor, and mixed motor sensory nerves
- Must test muscle action potential to measure constancy of function before, during, and after surgery
- Must have an algorithm to distinguish between artifact and true nerve stimulation

BiPolar Generator

- Must have a color screen to allow for fast adjustments
- Must utilize aperiodic waveform to help eliminate popping during surgery
- Must offer both cut and coag functions

Ultrasonic Aspirator

- Must redirect the longitudinal stroke into a longitudinal and torsional motion, creating a non-rotational and highly directional motion providing the surgeon with the ability to safely dissect bone in close proximity with delicate structures
- Must be compatible with a tip consisting of two V-shaped notches opposite one another which enables fine, sharp dissection of target tissue
- Must have a universal hand piece that can operate all tips used with the system
- Hand piece must not require external cooling by piezoelectric transducer
- Console must have included irrigation
- System must use one, dual bore tubing kit for irrigation and suction
- Suction, irrigation, and ultrasonic functions must be able to be used alone, or simultaneously

Radiofrequency Generator

- Must be able to output no less than 100 watts
- Must be able to create a strip lesion without removing electrodes
- Must be able to choose the order of lesions
- Must track number of uses for each electrode
- Electrode must be compatible cannulas which form a V shape to target large lesion zones
- Electrode must be compatible with cannulas which have a side port to allow for improved anesthesia propagation local to the target lesion zone
- Electrode must be compatible with cannulas which have the ability for monopolar and parallel bipolar lesions
- Electrode must be compatible with 20 gauge cannulas

Microdebrider Hand Piece

- Must have at least 5,000 rpm in oscillation
- Must have straight through suction
- Must have a flush feature to allow surgeon to manually unclog hand piece using its own irrigation

Bone Mill

- Must be compatible with multiple blade sizes
- Must have preassembled blades
- Must have a single pass cutting action to create uniform particulate size with exposure to low temperatures
- Must be compatible with existing instrument driving console

Other medical requirements as directed by the Government

- Must be able to provide surgical scopes (cystoscopes, laparoscopes, arthroscopes) as required by the Government to meet its minimum surgical needs.
- Must be able to provide manual instruments (graspers, scissors, obturators) to help with minimally invasive surgery as required by an authorized surgeon.
- Must provide a microcart that meets the minimum of hospital requirements.
- Must provide a desktop stand capable of being used in a surgical environment.