Statistical Analysis Plan (SAP)

A Prospective, Multi-Center Evaluation of the ENSEAL X1 Large Jaw Tissue Sealer

Protocol Number: ENG-17-001

Protocol Version: Amendment 3, June 6, 2019

SAP Revision: 1.0
SAP Revision Date: 10SEP2019

Revision History

Revision Number	Revision Date	Reasons for Revision
1.0	10SEP2019	Original Document

Table of Contents

1 Introduction

This is the Statistical Analysis Plan (SAP) for the final analysis of data collected under Protocol ENG-17-001. This SAP describes in detail the statistical methodology and statistical analyses for this protocol.

1.1 **Study Objectives**

The primary objective of this study is to prospectively generate device-specific clinical data related to hemostasis in a post-market setting using the ENSEAL X1 device per its Instruction For Use (IFU). Secondary objectives include proactive surveillance of safety and performance outcomes following use of the ENSEAL X1.

1.2 **Study Design**

This is a prospective, single-arm, multi-center evaluation designed to collect clinical data in a post-market setting for colectomy, gynecological, and thoracic procedures. Investigators will perform each procedure using the device in compliance with their standard surgical approach and the ENSEAL X1 IFU.

Each site will utilize consecutive screening and enrollment in an effort to generate a random and representative patient population sample. Subjects will be consented and screened anytime between the time of scheduling the procedure and hospital admission (this period will vary per subject but may occur over several dates within an 8-week period prior to surgery). Subjects will be considered enrolled at the time of the first attempted vessel transection using the ENSEAL X1 device during their procedure. Procedures will be performed per each institution's standard-of-care (SOC) that is specific for each procedure group (colectomy, gynecological, and thoracic). The last study visit will be at the post-op follow-up visit at approximately 4 weeks. Follow-up by phone for subjects is allowed when an on-site visit is not planned.

A total of 100 eligible subjects were planned to be enrolled with a minimum of 30 subjects enrolled for colectomy procedures (e.g., total colectomy, partial colectomy, hemicolectomy, proctocolectomy), a minimum of 30 subjects enrolled for gynecological procedures (e.g., hysterectomy), and a minimum of 20 subjects enrolled for thoracic procedures (e.g., esophagectomy). The remaining 20 subjects could be enrolled from any of the three procedure groups and enrollment will be competitive between procedure groups.

2 Treatment Assignment

This is a single-arm study where all enrolled subjects will have the ENSEAL X1 device utilized for transection of at least one vessel.

3 Randomization and Blinding Procedures

As this is a single-arm study, no randomization occurred, and no blinding procedures are required.

4 Interval Windows

Interval windows for the purpose of analysis in this study are not defined outside of those already specified in the protocol for visit scheduling as the collection of data for the primary and secondary performance endpoints occurs intra-operatively. The final visit occurs approximately 4 weeks after surgery, thus no interval windows for analysis need to be defined given the absence of long-term follow-up in this study. The protocol Schedule of Events specifies a window of 14 days around the scheduling of the 4-week follow-up visit, and any information entered in the electronic Case Report Forms (eCRFs) at this visit will correspond to the 4-week visit. There will be no assigning of observations to time points outside of the visit to which they are recorded in the eCRFs.

5 Levels of Significance

No hypotheses are specified for this study and no p-values are being calculated, therefore no level of significance is specified. All estimation of endpoints will be performed using 95% confidence intervals.

6 Analysis Sets

The summary of all performance and safety endpoints will be performed on the set of subjects in whom the ENSEAL X1 device is utilized during the surgical procedure. This will be labeled the ENSEAL Analysis Set. This set of subjects will be identified by having at least one entry in the Vessel Transected eCRF or by having answered "Yes" to the question "Was ENSEAL X1 used for tissue cutting or dissection?" on the Intra-Operative Data eCRF. The summary of all primary and secondary performance endpoints will be performed by procedure group (colectomy, gynecological, or thoracic). The summary of all safety endpoints will be performed by procedure group and on the entire pooled set of subjects.

7 Sample Size Justification

A sample size of 100 subjects was planned for enrollment in this study. No formal hypothesis was being tested in this study, thus the sample size was not statistically sized, but rather was considered sufficient for a descriptive summary of performance endpoints within each procedure group. It was expected that at least 2 vessels would be transected within each procedure, providing an expected minimum of at least 60 transections within colectomy and gynecological procedure groups and at least 40 transections in the thoracic procedure group for a total of at least 200 transections across all procedures.

From a safety perspective on the pooled analysis of 100 subjects and in consideration of rare adverse events (AEs) that may occur (e.g., bleeding requiring blood product transfusion), for an event that has an incidence rate of, for example, 2%, then in a sample of 100 subjects, the probability of observing at least 1 event is 86.7% under a binomial probability model. Thus, this sample size provides a high probability of observing rare events if they do occur, and provides reasonable assurance to conclude that the likelihood of such AEs is less than 3.7% if they do not occur based on the upper limit of an exact 95% confidence interval when 0 events out of 100 subjects are observed.

8 Analyses to be Conducted

8.1 General Conventions

Subject data will be summarized in tables and presented in further detail in listings. All eCRF data will be listed per subject for all subjects. Descriptive statistical analyses will be provided for pre-specified study endpoints. Summaries for continuous variables will include a minimum of number of observations (n), mean, standard deviation, median, minimum, and maximum. Summaries for categorical variables will include number and percentage.

Analyses will be conducted using SAS software. During the course of programming of tables that are mocked up in this SAP, minor modifications may become necessary. Examples of these minor modifications include, but are not limited to, re-wording of a footnote, addition of a footnote, re-labeling of a column, or addition or removal of a column from a listing. In cases where modifications to tables or listings are not related to a change in statistical analysis methodology or conclusions that could be made on the originally proposed methodology, then no amendment of the SAP is necessary. Any final analyses that differ from what has been specified in this document will be identified within the final statistical output and documented within the clinical study report.

8.2 Disposition of Study Subjects

Subject disposition will be summarized by procedure group (colectomy, gynecological, and thoracic) and in total using counts and percentages. The number and percentage of subjects in the ENSEAL Analysis Set who completed and discontinued will be tabulated along with the specific reasons for discontinuation.

8.3 Demographic, Baseline, and Surgical Characteristics

Summary statistics of subject demographics (age, gender, childbearing potential, race, and ethnicity) will be presented by procedure group and in total. Vital signs (height, weight, and body mass index) and background information (primary indication, specific procedure performed, gravidity, parity, smoking history, and cancer history) will be summarized in a similar manner. Medical history will be summarized by Medical Dictionary for Regulatory Activities (MedDRA) system organ class and preferred term. Surgical characteristics including, at minimum, procedure duration, occurrence of vessel skeletonization, presence of inflamed tissue or calcified

tissues/vessels, volume of estimated intra-operative blood loss, and use of ENSEAL X1 for tissue cutting or dissection will be summarized by procedure group and in total.

8.4 Primary and Secondary Endpoints and Associated Hypotheses

8.4.1 Primary Endpoint and Associated Hypotheses

No formal hypotheses are specified for this study. The study endpoints are representative of endpoints that are currently reported in the available literature for similar energy devices and this will allow for qualitative comparisons with the results from this study.

The primary performance endpoint in this study is the percentage of vessels where hemostasis (≤ Grade 3) is achieved using the ENSEAL X1 device and no additional hemostatic products (e.g., hemoclips, staples, sutures, fibrin sealants, other advanced energy) are needed to obtain hemostasis. The hemostasis grading scale applied is defined as:

- Grade 1: no bleeding at transection site;
- Grade 2: minor bleeding at transection site, no intervention needed;
- Grade 3: minor bleeding at transection site, mild intervention needed, use of monopolar device and/or touch-ups with ENSEAL X1;
- Grade 4: significant bleeding (e.g., pulsatile blood flow, venous pooling) requiring intervention such as extensive coagulation or ligation with additional hemostatic products (e.g., hemoclips, staples, sutures, fibrin sealants, other advanced energy products).

The primary performance endpoint will be summarized at the transection level as multiple transections per subject are expected; that is, the denominator for the primary endpoint will be the total number of transections and the numerator will be the number of transections where hemostasis (≤ Grade 3) was achieved. An exact 95% confidence interval using the Clopper-Pearson method will also be estimated. Primary performance endpoint summaries will be provided for each procedure group and in total.

8.4.2 Secondary Endpoints and Associated Hypotheses

Counts and percentages will be provided for the following endpoints:

- type and number of vessels transected;
- grading scale distribution for all vessels transected;
- tissue sticking score of vessel transection;
- number of times compression was used for Grade 3 interventions;
- number of times monopolar device touch-ups were required for Grade 3 interventions; and,
- number of times ENSEAL X1 touch-ups were required for Grade 3 interventions.

The protocol identifies an additional endpoint of 'the number of times additional hemostatic product was required to obtain hemostasis for Grade 4 bleeding'. Given the low number of Grade 4 ratings that have been observed in the trial at the time of finalization of this SAP, no summaries will be performed for this endpoint, and only a data listing will be generated.

8.4.3 Additional Endpoints

Counts and percentages will be provided for responses to the device procedure questionnaire as well as the surgeon questionnaire. Free-text fields from both eCRFs will be listed. The requirement for any blood transfusion and time of the transfusion will be summarized with counts and percentages. Summary statistics will be provided for length of stay. All protocol deviations recorded during the study will be classified as minor or major. Counts and percentages will be provided for the type of deviation, the rationale for the deviation, and classification (minor or major).

8.5 Safety Analyses

The primary safety endpoint in this study is the occurrence of device-related AEs. All device-related and procedure-related AEs reported during the study will be coded to MedDRA. Per study protocol, related AEs are those identified as having a relationship of unlikely, possible, probable, or causal. All reported AEs will be summarized by MedDRA system organ class and preferred term by procedure group and in total. Separate summaries will be provided for device-related and procedure-related AEs. Serious AEs will be summarized in a similar manner. All reported adverse events will be listed. Listings will also be provided for blood transfusion details, chest tube details, concomitant procedures, and concomitant medications.

8.6 Plans for Interim Analysis

No interim analyses were planned or performed for this study.

8.7 Handling of Missing Data

All summaries will be performed only on enrolled subjects and only observed data will be summarized. There will be no imputation of data for early terminated subjects or for missing data within the database.

8.8 Sensitivity Analyses

The analysis of the primary performance endpoint described above in Section 8.4.1 makes the assumption of independence of transections within a subject in estimation of variance for the confidence interval calculation. To account for the potential dependence among transections within a subject, a sensitivity analysis will be performed where the 95% confidence interval will be estimated using a bootstrap approach. For each subject, the outcome of all transections will be represented by a vector of 1's (indicating a score of ≤ Grade 3 hemostasis) and 0's (indicating a score of Grade 4 hemostasis). This vector will be re-sampled with replacement to generate a bootstrap sampled vector of observations for each subject. Then, the proportion of observations

scored as ≤ Grade 3 hemostasis for each subject will be calculated from this bootstrap vector. After obtaining a sample proportion of transections achieving ≤ Grade 3 hemostasis for each subject, the mean of these sample proportions will be calculated across all subjects to provide an estimated sample proportion of transections achieving ≤ Grade 3 hemostasis based on 1 iteration of the bootstrap process. This process will then be repeated a minimum of 5000 times to generate a sampling distribution for the proportion of transections achieving ≤ Grade 3 hemostasis. The mean of this sampling distribution will be provided as the point estimate of the proportion of transections achieving ≤ Grade 3 hemostasis and the 95% confidence interval will be estimated by the lower 0.025 and upper 0.975 percentiles of this sampling distribution.

The table below demonstrates 1 iteration of this bootstrap process.

Subject ID	Observed Data Vector	Bootstrap Sampled Vector	Bootstrap-Based Sample Proportion
1	(1, 1, 0, 1, 1)	(1, 0, 1, 0, 1)	0.60
2	(1, 1, 1)	(1, 1, 1)	1.0
3	(1, 0, 1, 1)	(0, 1, 1, 1)	0.75
4	(1, 1, 0, 1, 1)	(1, 1, 1, 1, 1)	1.0
5	(1, 1)	(1, 1)	1.0
…	…	…	…
…	…	…	…
N	(0, 1, 1, 0, 1)	(1, 0, 1, 1, 1)	0.80
Summary			Mean of above proportions to get 1 observation in the sampling distribution of the proportion of transections achieving ≤ Grade 3 hemostasis.

The above re-sampling process will then be repeated a minimum of 5000 times to estimate the sampling distribution.

8.9 Subgroup Analysis

Subgroup analyses of the primary performance endpoint are planned to be performed for the subgroup of subjects who have a medical history of treatment for cancer (chemotherapy or radiation as identified on the Background Information 2 eCRF) and the subgroup of subjects with potentially compromised vessel condition (presence of inflamed tissue or calcified tissues/vessels as identified on the Intra-operative Data eCRF). Similar subgroup analyses will also be performed by named vessel types. Upon completion of data entry into the study database, entries into the free text field for named vessels will be grouped into similar categories, e.g. short gastric or right/left uterine, and summaries of the primary performance endpoint will be generated for these subgroups.

8.10 Assessment of Site Homogeneity

No summaries or adjustments by study site are planned for this study.

9 Data Monitoring Committee (DMC)

No Data Monitoring Committee was planned or utilized during this study.

Appendix: Table Shells and List of Listings to be Generated

Table shells are provided below for all summaries to be generated for this study. These shells are a guide to the general layout of data to be presented. Minor modifications can be made to suit existing programs or macros that are available. Additionally, a list of all listings to be created is provided corresponding to the eCRFs that are used during this study. All fields collected will be listed.

Table 1
Subject Disposition
All Subjects

	Colectomy	Gynecological	Thoracic	Total
Signed Informed Consent				xx
ENSEAL Analysis Set	xx	xx	xx	xx
Completed the Study	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
Discontinued from the Study	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
Reason for Discontinuation				
Withdrawal of consent	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
Adverse Event	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
Death	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
Lost to Follow-up	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
Site or Study Termination	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
Other	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)

All percentages are calculated using the number of subjects in the ENSEAL Analysis Set as the denominator.

Programming note: Only categories actually observed in the database need to be displayed for Reason for Discontinuation.

Table 2
Subject Demographics and Vital Signs
ENSEAL Analysis Set

Characteristic	Colectomy (N = ##)	Gynecological (N = ##)	Thoracic (N = ##)	Total (N = ##)
Age at Consent (yrs)				
N	xx	xx	xx	xx
Mean (SD)	xx.x (xx.x)	xx.x (xx.x)	xx.x (xx.x)	xx.x (xx.x)
Median (Min, Max)	xx.x (xx, xx)	xx.x (xx, xx)	xx.x (xx, xx)	xx.x (xx, xx)
Gender, n (%)				
Male	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
Female	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
Ethnicity, n (%)				
Hispanic or Latino	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
Not Hispanic or Latino	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
Not Reported	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
Race, n (%)				
Race 1	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
……	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
Childbearing Potential, If Female n (%)				
Of childbearing potential	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
Permanently sterilized	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
Postmenopausal	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
Height (cm)				
n	xx	xx	xx	xx
Mean (SD)	xx.x (xx.x)	xx.x (xx.x)	xx.x (xx.x)	xx.x (xx.x)
Median (Min, Max)	xx.x (xx, xx)	xx.x (xx, xx)	xx.x (xx, xx)	xx.x (xx, xx)
Weight (kg)				
n	xx	xx	xx	xx
Mean (SD)	xx.x (xx.x)	xx.x (xx.x)	xx.x (xx.x)	xx.x (xx.x)
Median (Min, Max)	xx.x (xx, xx)	xx.x (xx, xx)	xx.x (xx, xx)	xx.x (xx, xx)
Body Mass Index (kg/m^2)				
n	xx	xx	xx	xx
Mean (SD)	xx.x (xx.x)	xx.x (xx.x)	xx.x (xx.x)	xx.x (xx.x)
Median (Min, Max)	xx.x (xx.x)	xx.x (xx.x)	xx.x (xx.x)	xx.x (xx.x)

Denominator and percentages are based on subjects with non-missing data. For child-bearing potential, denominator is number of females in each group.

Table 3
Medical History by System Organ Class and Preferred Term
ENSEAL Analysis Set

System Organ Class	Preferred Term	Colectomy (N = ##)	Gynecological (N = ##)	Thoracic (N = ##)	Total (N = ##)
Total		xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
System Organ Class 1		xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
	Preferred Term 1	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
	Preferred Term 2	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
	Preferred Term 3	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
System Organ Class 2		xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
	Preferred Term 1	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
	Preferred Term 2	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
System Organ Class 3		xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
	Preferred Term 1	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
	Preferred Term 2	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
	Preferred Term 3	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
System Organ Class 4		xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
	Preferred Term 1	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
	Preferred Term 2	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)

Table 4.1
Background Information – Colectomy Procedure Group
ENSEAL Analysis Set

Characteristic	Colectomy (N = ##)
Primary Indication for the Procedure	
Colorectal carcinoma	xx (xx.x%)
Ulcerative colitis	xx (xx.x%)
Diverticulitis	xx (xx.x%)
Crohn's disease	xx (xx.x%)
Colorectal polyps or polyp syndrome	xx (xx.x%)
Other	xx (xx.x%)
Specific Procedure Performed	
Total proctocolectomy	xx (xx.x%)
Sub-total colectomy	xx (xx.x%)
Low anterior resection	xx (xx.x%)
Sigmoid colectomy	xx (xx.x%)
Hartman procedure	xx (xx.x%)
Left colectomy	xx (xx.x%)
Right colectomy	xx (xx.x%)
Other	xx (xx.x%)

Programming note: Only categories actually observed in the database need to be displayed.

Table 4.2
Background Information – Gynecological Procedure Group
ENSEAL Analysis Set

Characteristic	Gynecological (N = ##)
Primary Indication for the Procedure	
Abnormal bleeding	xx (xx.x%)
Endometriosis	xx (xx.x%)
Prolapse	xx (xx.x%)
Fibroids	xx (xx.x%)
Atypical or hyperplasia endometrium	xx (xx.x%)
Ovarian cyst	xx (xx.x%)
Ovarian cancer	xx (xx.x%)
Uterine cancer	xx (xx.x%)
Other	xx (xx.x%)
Specific Procedure Performed	
Subtotal hysterectomy	xx (xx.x%)
TAH	xx (xx.x%)
TAH/subtotal with bilateral salpingo-oopherectomy	xx (xx.x%)
TAH/subtotal with unilateral salpingo-oopherectomy	xx (xx.x%)
TAH/subtotal with bilateral salpingectomy	xx (xx.x%)
Unilateral salpingo-oopherectomy	xx (xx.x%)
Bilateral salpingo-oopherectomy	xx (xx.x%)
Other	xx (xx.x%)
Gravidity	
N	xx
Mean	xx.x
Standard Deviation	x.xxx
Median	xx.x
Minimum, Maximum	xx.x, xx.x
Parity	
n	xx
Mean	xx.x
Standard Deviation	x.xxx
Median	xx.x
Minimum, Maximum	xx.x, xx.x

Programming note: Only categories actually observed in the database need to be displayed.

Table 4.2
Background Information – Gynecological Procedure Group
ENSEAL Analysis Set

Characteristic	Gynecological (N = ##)
Number of Vaginal Deliveries	
N	xx
Mean	xx.x
Standard Deviation	x.xxx
Median	xx.x
Minimum, Maximum	xx.x, xx.x
Number of C-Section Deliveries	
n	xx
Mean	xx.x
Standard Deviation	x.xxx
Median	xx.x
Minimum, Maximum	xx.x, xx.x

Table 4.3
Background Information – Thoracic Procedure Group
ENSEAL Analysis Set

Characteristic	Thoracic (N = ##)
Primary Indication for the Procedure	
Esophageal cancer	xx (xx.x%)
Benign esophageal disease	xx (xx.x%)
Other	xx (xx.x%)
Specific Procedure Performed	
Transhiatal esophagectomy	xx (xx.x%)
Transthoracic esophagectomy	xx (xx.x%)
Three-field	xx (xx.x%)
Ivor-Lewis	xx (xx.x%)
Other	xx (xx.x%)

Programming note: Only categories actually observed in the database need to be displayed.

Table 5
Additional Background Information
ENSEAL Analysis Set

Characteristic	Colectomy (N = ##)	Gynecological (N = ##)	Thoracic (N = ##)	Total (N = ##)
Current Smoking Status				
Current smoker	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
Former smoker	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
Never smoked	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
History of Cancer?				
Yes	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
No	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
Type of Cancer Treatment				
Chemotherapy	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
Radiation	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)

Table 6
Intra-Operative Information
ENSEAL Analysis Set

Characteristic	Colectomy (N = ##)	Gynecological (N = ##)	Thoracic (N = ##)	Total (N = ##)
Occurrence of Vessel Skeletonization?				
Yes	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
No	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
Presence of Inflamed Tissue or Calcified Tissues/Vessels				
Yes	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
No	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
Was ENSEAL X1 Used for Tissue Cutting or Dissection?				
Yes	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
No	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
Procedure Duration (hours)				
n	xx	xx	xx	xx
Mean (SD)	xx.x (xx.x)	xx.x (xx.x)	xx.x (xx.x)	xx.x (xx.x)
Median (Min, Max)	xx.x (xx, xx)	xx.x (xx, xx)	xx.x (xx, xx)	xx.x (xx, xx)
Volume of Estimated Intra-operative Blood Loss (mL)				
n	xx	xx	xx	xx
Mean (SD)	xx.x (xx.x)	xx.x (xx.x)	xx.x (xx.x)	xx.x (xx.x)
Median (Min, Max)	xx.x (xx, xx)	xx.x (xx, xx)	xx.x (xx, xx)	xx.x (xx, xx)
Uterine Size (grams)				
n		xx		
Mean (SD)		xx.x (xx.x)		
Median (Min, Max)		xx.x (xx, xx)		

Table 7
Vessel Transection Summary – Original Procedure
ENSEAL Analysis Set

Characteristic	Colectomy (N = ##)	Gynecological (N = ##)	Thoracic (N = ##)	Total (N = ##)
Total Number of Vessels Transected	xx	xx	xx	xx
Hemostasis Grading Scale				
Grade 1	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
Grade 2	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
Grade 3	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
Grade 4	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
Hemostasis Achieved (Grade 3 or lower)				
Yes, n (%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
95% Confidence Interval	xx.x%, xx.x%	xx.x%, xx.x%	xx.x%, xx.x%	xx.x%, xx.x%
Tissue Stick Score, n (%)				
1 - No sticking	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
2 – Slight sticking	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
3 – Sticking requiring counter tension	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
4 – Sticking requiring extensive force	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
Number of Grade 3 Vessels Using Compression	xx	xx	xx	xx
Number of Grade 3 Vessels Using Monopolar Touch-up	xx	xx	xx	xx
Number of Monopolar Touch-ups				
n	xx	xx	xx	xx
Mean (SD)	xx.x (xx.x)	xx.x (xx.x)	xx.x (xx.x)	xx.x (xx.x)
Median (Min, Max)	xx.x (xx, xx)	xx.x (xx, xx)	xx.x (xx, xx)	xx.x (xx, xx)
Number of Grade 3 Vessels Using ENSEAL X1 Touch-up	xx	xx	xx	xx
Number of ENSEAL X1 Touch-ups				
n	xx	xx	xx	xx
Mean (SD)	xx.x (xx.x)	xx.x (xx.x)	xx.x (xx.x)	xx.x (xx.x)
Median (Min, Max)	xx.x (xx, xx)	xx.x (xx, xx)	xx.x (xx, xx)	xx.x (xx, xx)

Denominator and percentages are based on number of vessels transected in each group.

Programming notes:

1. *Only records indicated as "Original procedure" will be summarized in this table.*
2. *For number of vessels using touch up questions, the number presented will be the number of times "yes" is answered to the corresponding CRF question (VTMONO or VTENS); For summary statistics on number of touch-ups, the variables VTTUP and VTTUPS will be summarized*

The following tables will have the same format as Table 7:

Table 8	Vessel Transection Summary – Original Procedure ENSEAL Analysis Set Subjects With Medical History for Treatment of Cancer
Table 9	Vessel Transection Summary – Original Procedure ENSEAL Analysis Set Subjects With Presence of Inflamed Tissue or Calcified Tissues/Vessels
Table 10.1	Vessel Transection Summary – Original Thoracic Procedures ENSEAL Analysis Set Vessels Identified as Short Gastric Vessels
Table 10.2	Vessel Transection Summary – Original Gynecological Procedure ENSEAL Analysis Set Vessels Identified as Right Uterine Vessels
Table 10.3	Vessel Transection Summary – Original Gynecological Procedure ENSEAL Analysis Set Vessels Identified as Left Uterine Vessels
Table 10.4	Vessel Transection Summary – Original Gynecological Procedure ENSEAL Analysis Set Vessels Identified as Right Ovarian Vessels
Table 10.5	Vessel Transection Summary – Original Gynecological Procedure ENSEAL Analysis Set Vessels Identified as Left Ovarian Vessels
Table 10.6	Vessel Transection Summary – Original Thoracic Procedure ENSEAL Analysis Set Vessels Identified as Left Gastroepiploic Vessels
Table 10.7	Vessel Transection Summary – Original Gynecological Procedure ENSEAL Analysis Set Vessels Identified as Omental Vessels
Table 10.8	Vessel Transection Summary – Original Colectomy Procedure ENSEAL Analysis Set Vessels Identified as IMA Vessels

Note: Tables 10.1 through 10.8 will only present a column for the identified procedure in the Table title.

Table 11
Device Procedure Questionnaire
ENSEAL Analysis Set

Characteristic	Colectomy (N = ##)	Gynecological (N = ##)	Thoracic (N = ##)	Total (N = ##)
Number of Hands Required				
One Hand	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
Two Hands	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
Repositioning or Adjustment Needed?				
Yes	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
No	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
Need to Change Hand Positions to Activate ENSEAL X1?				
Yes	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
No	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)

Table 12
Surgeon Questionnaire
ENSEAL Analysis Set

Characteristic	Colectomy (N = ##)	Gynecological (N = ##)	Thoracic (N = ##)	Total (N = ##)
Number of Questionnaires Completed	xx	xx	xx	xx
Surgeon Glove Size				
n	xx	xx	xx	xx
Mean (SD)	xx.x (xx.x)	xx.x (xx.x)	xx.x (xx.x)	xx.x (xx.x)
Median (Min, Max)	xx.x (xx, xx)	xx.x (xx, xx)	xx.x (xx, xx)	xx.x (xx, xx)
ENSEAL X1 was better balanced compared to PABD				
Strongly disagree	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
Slightly disagree	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
Neutral	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
Slightly agree	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
Strongly agree	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
Less hand fatigue experienced with ENSEAL X1 compared to PABD				
Strongly disagree	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
Slightly disagree	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
Neutral	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
Slightly agree	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
Strongly agree	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
Buttons were easily distinguishable on the ENSEAL X1				
Strongly disagree	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
Slightly disagree	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
Neutral	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
Slightly agree	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
Strongly agree	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
Firing of ENSEAL X1 was easier compared to PABD				
Strongly disagree	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
Slightly disagree	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
Neutral	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
Slightly agree	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
Strongly agree	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)

Percentages are calculated using the total number of questionnaires completed in each group as the denominator.
PABD = Previous Advanced Bipolar Device

Table 12
Surgeon Questionnaire
ENSEAL Analysis Set

Characteristic	Colectomy (N = ##)	Gynecological (N = ##)	Thoracic (N = ##)	Total (N = ##)
Transection with ENSEAL X1 could be performed with just one hand compared to PABD?				
Strongly disagree	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
Slightly disagree	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
Neutral	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
Slightly agree	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
Strongly agree	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
Any differences in general ease of use and dissecting/sealing capabilities of ENSEAL X1 compared to PABD?				
Yes	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
No	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
Any noticeable differences in terms of thermal spread of ENSEAL X1 compared to PABD?				
Yes	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
No	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)

Percentages are calculated using the total number of questionnaires completed in each group as the denominator.
PABD = Previous Advanced Bipolar Device

Programming note: If fewer than 10 surveys are completed in total, results will only be listed.

Table 13
Blood Transfusion and Length of Stay Summary
ENSEAL Analysis Set

Characteristic	Colectomy (N = ##)	Gynecological (N = ##)	Thoracic (N = ##)	Total (N = ##)
Blood Transfusion Required?				
Yes	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
No	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
Time Point of Transfusion				
Intra-operatively	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
Prior to discharge	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
After discharge	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
Length of Stay (nights)				
n	xx	xx	xx	xx
Mean (SD)	xx.x (xx.x)	xx.x (xx.x)	xx.x (xx.x)	xx.x (xx.x)
Median (Min, Max)	xx.x (xx, xx)	xx.x (xx, xx)	xx.x (xx, xx)	xx.x (xx, xx)

Percentages for time point of transfusion are calculated using the number of subjects requiring a blood transfusion as the denominator.

Table 14
All Adverse Events by System Organ Class and Preferred Term
ENSEAL Analysis Set

System Organ Class	Preferred Term	Colectomy (N = ##)	Gynecological (N = ##)	Thoracic (N = ##)	Total (N = ##)
Total		xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
System Organ Class 1		xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
	Preferred Term 1	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
	Preferred Term 2	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
	Preferred Term 3	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
System Organ Class 2		xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
	Preferred Term 1	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
	Preferred Term 2	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
System Organ Class 3		xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
	Preferred Term 1	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
	Preferred Term 2	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
	Preferred Term 3	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
System Organ Class 4		xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
	Preferred Term 1	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
	Preferred Term 2	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)

The following tables will have the same format as Table 14:

Table 15	All Serious Adverse Events by System Organ Class and Preferred Term ENSEAL Analysis Set
Table 16	Adverse Events Related to the Study Device by System Organ Class and Preferred Term ENSEAL Analysis Set
Table 17	Serious Adverse Events Related to the Study Device by System Organ Class and Preferred Term ENSEAL Analysis Set
Table 18	Adverse Events Related to the Study Procedure by System Organ Class and Preferred Term ENSEAL Analysis Set
Table 19	Serious Adverse Events Related to the Study Procedure by System Organ Class and Preferred Term ENSEAL Analysis Set

Table 20
Protocol Deviations
ENSEAL Analysis Set

Characteristics	Colectomy (N = ##)	Gynecological (N = ##)	Thoracic (N = ##)	Total (N = ##)
Total Number of Protocol Deviations	xxx	xxx	xxx	xxx
Specific Types of Protocol Deviations [1]				
Informed Consent Process	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
Inclusion/Exclusion Criteria	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
Study Procedure	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
Visit Out of Window	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
Other	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
Sponsor Assessment of Protocol Deviations [1]				
Minor	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
Major	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)
Number (%) of Subjects With at Least 1 Protocol Deviation [2]	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)	xx (xx.x%)

1. Denominator used is the total number of protocol deviations reported.
2. Denominator used is the total number of subjects in the column header.

Table 21
Summary of Vessel Categorization
ENSEAL Analysis Set

Procedure Group Vessel Name	Colectomy (M = ##)	Gynecological (M = ##)	Thoracic (M = ##)
Colectomy			
IMA	xx (xx.x%)		
IMV	xx (xx.x%)		
Ileocolic	xx (xx.x%)		
Middle colic	xx (xx.x%)		
Right colic	xx (xx.x%)		
Sigmoid	xx (xx.x%)		
Gynecological			
Right uterine		xx (xx.x%)	
Left uterine		xx (xx.x%)	
Right ovarian		xx (xx.x%)	
Left ovarian		xx (xx.x%)	
Omental		xx (xx.x%)	
Thoracic			
Short gastric			xx (xx.x%)
Left gastroepiploic			xx (xx.x%)
Left gastric			xx (xx.x%)

Column header, M, is the total number of vessel transections in the given group and serves as the denominator for calculation of percentages in the table.

Programming note: Data is sourced from external file where vessel categorization is performed based on free text field entries in the Vessel Transected CRF. Additional categories beyond those presented above may be included.

The following listings will be generated for this study:

Listing 1	Inclusion/Exclusion Criteria All Subjects
Listing 2	Demographics All Subjects
Listing 3	Vital Signs All Subjects
Listing 4	Medical History All Subjects
Listing 5	Surgical History All Subjects
Listing 6.1	Background Information 1 (Part 1) All Subjects
Listing 6.2	Background Information 1 (Part 2) All Subjects
Listing 7	Background Information 2 All Subjects
Listing 8.1	Intra-Operative Data (Part 1) All Subjects
Listing 8.2	Intra-Operative Data (Part 2) All Subjects
Listing 9	Vessel Transected All Subjects
Listing 10	Grade 4 Page All Subjects
Listing 11	Device Log All Subjects
Listing 12	Device Procedure Questionnaire All Subjects

Listing 13	Blood Transfusion Detail All Subjects
Listing 14	Chest Tube Detail All Subjects
Listing 15.1	Surgeon Questionnaire (Part 1) All Subjects
Listing 15.2	Surgeon Questionnaire (Part 2) All Subjects
Listing 16	Discharge All Subjects
Listing 17	Visual Analog Scale All Subjects
Listing 18	Subject Completion/Discontinuation All Subjects
Listing 19	Protocol Deviations All Subjects
Listing 20	Concomitant Procedures All Subjects
Listing 21	Concomitant Medications All Subjects
Listing 22	Adverse Events All Subjects
Listing 23	Study Visits All Subjects