



SURGERY

HEALTH LEVEL 7 INTERFACE SPECIFICATIONS

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HEALTH LEVEL 7 Interface Specifications

Exchange Of Surgical Health Care Information

1. PURPOSE

This document specifies an interface to the Veterans Health Information Systems and Technology Architecture (**VISTA**) Surgery package based upon the HL7 protocol. It is intended that this interface form the basis for the exchange of health care information between the **VISTA** Surgery package and any automated anesthesia information system (AAIS) or ancillary system.

2. OVERVIEW

2.1 Statement of Intent

The interface described by this document is a generic interface to the HL7 protocol for use by the **VISTA** Surgery package in communicating with any AAIS or ancillary system for the purpose of exchanging health care information. The interface strictly adheres to the HL7 protocol and avoids using Z type extensions to the protocol whenever possible.

2.2 Scope

This document describes messages that are exchanged between the **VISTA** Surgery package and any AAIS or ancillary system for the purpose of exchanging information concerning surgical cases.

3. GENERAL SPECIFICATIONS

3.1 Communication Protocol

The HL7 protocol defines only the seventh level of the Open System Interconnect (OSI) protocol. This is the application level. Levels one through six involve primarily communication protocols. The HL7 protocol provides some guidance in this area. The communication protocols that are used for interfacing with the **VISTA** Surgery package are based on the HL7 Hybrid Lower Level Protocol, which is described in the HL7 Implementation Guide.

3.2 Application Processing Rules

The HL7 protocol itself describes the basic rules for application processing by the sending and receiving systems. Information contained in the protocol is not repeated here; therefore, anyone wishing to interface with the **VISTA** Surgery package should become familiar with the HL7 protocol V. 2.2.

3.3 Messages

Refer to section 4, Transaction Specifications, for details and examples of all messages used to interface with **VISTA** Surgery. The following HL7 messages are used to support the exchange of Surgery information. The Z-messages are based upon an early balloted version of the HL7 Scheduling chapter (which has now been accepted and released in V. 2.3 of the HL7 protocol).

ACK General Acknowledgment MFK Master File Application Acknowledgement
MFN Master File Notification ORU Observational Results Unsolicited QRY Query
Message ZIU Schedule Information Unsolicited ZSQ Scheduled Activity Transaction

3.4 Segments

Refer to section 4, Transaction Specifications, for details and examples of all segments used to interface with **VISTA** Surgery. The following HL7 segments are used to support the exchange of Surgery information. The Z-segments (ZCH, ZIG, ZIL, ZIP, and ZIS) are based upon an early balloted version of the HL7 Scheduling chapter (which has now been accepted and released in V. 2.3 of the HL7 protocol). The other Z-segments (ZI9, ZMN, ZRF, and ZRX) are based upon the suggestion given in the Master Files Chapter and closely resemble the Staff Identification segment.

AL1 Allergy Information
DG1 Diagnosis
ERR Error
MFA Master File Acknowledgement
MFE Master File Entry
MFI Master File Identification
MSA Message Acknowledgment
MSH Message Header
NTE Notes and Comment
OBR Observation Request
OBX Observation

PID Patient Identification
STF Staff Identification
QRD Query Definition
QRF Query Filter
SCH Schedule Appointment Information
AIG Appointment Information -General Resource
AIL Appointment Information - Location Resource
AIP Appointment Information - Personnel Resource
AIS Appointment Information - Service
ZI9 ICD9 Identification
ZMN Monitor Identification
ZRF Replacement Fluid Identification
ZRX Medication Identification

3.5 Fields

The segment definition tables list and describe the data fields in the segment and characteristics of their usage. The following information is specified about each data field.

Sequence Number (SEQ): The ordinal position of the data field within the segment. This number is used to refer to the data field in the text comments that follow the segment definition table.

Length (LEN): The maximum number of characters that one occurrence of the data field may occupy.

Data Type (DT): Restrictions on the contents of the data field as defined by the HL7 Standard.

Optionality (R/O/C): Whether the data field is required, optional, or conditional in a segment. The designations are: R - required; O (null) - optional; and C conditional on the trigger event.

Repetition (RP/#): Whether the field may repeat. The designations are: N (null)
-for no repetition allowed; Y - the field may repeat an indefinite or site determined number of times; and (integer) - the field may repeat up to the number of times specified in the integer.

Table (TBL#): A table of values which may be defined by HL7 or negotiated between the *VISTA* Surgery application and the vendor system.

Element Name: Globally unique descriptive name for the field.

The HL7 segment fields shown on the following page, are used to support the exchange of Surgery data for each of the segments listed in paragraph 3.4. Tables referenced in the segments can be found in the HL7 Interface Standards document. For the standard HL7 segments, definitions of each element are provided for those fields which are utilized. The field definitions can include specific information (e.g., expected format) for transmission.

3.5.1 Segment: AL1 - Patient Allergy Information

The AL1 segment contains patient allergy information of various types. Each AL1 segment describes a single patient allergy.

SEQ	LEN	DT	R/O	RP/#	TBL#	ELEMENT NAME
1	4	SI	R			SET ID - ALLERGY
2	2	ID			127	ALLERGY TYPE
3	60	CE	R			ALLERGY CODE/MNEMONIC/DESCRIPTION

3.5.1.0 AL1 field definitions

3.5.1.1 SET ID - ALLERGY (SI)

SET ID is a number that uniquely identifies the individual transaction for adding, deleting or updating an allergy description in the patient's record. The field is used to identify the segment repetitions.

3.5.1.2 ALLERGY TYPE (ID)

ALLERGY TYPE indicates a general allergy category (drug, food, pollen, etc.). Only the following values are expected/accepted.

HL7 (User-defined) Table 127 ALLERGY TYPE

Value	Description
DA	Drug Allergy
FA	Food Allergy
MA	Miscellaneous Allergy
MC	Miscellaneous Contraindication
DF	Drug/Food Allergy
DO	Drug/Other Allergy
FO	Food/Other Allergy
AT	All Types

3.5.1.3 ALLERGY CODE/MNEMONIC/DESCRIPTION (CE)

ALLERGY CODE/MNEMONIC/DESCRIPTION is a coded element made up of the following:

<identifier> <text> <name of coding system>

For each allergy transmitted, only the text component is populated. The text component is the free text allergy name. All other field components are left blank.

3.5.2 Segment: DG1 - Diagnosis

The DG1 segment contains patient diagnosis information of various types.

SEQ	LEN	DT	R/O	RP/#	TBL#	ELEMENT NAME
1	4	SI	R			SET ID - DIAGNOSIS
2	2	ID	R		53	DIAGNOSIS CODING METHOD
3	8	ID			51	DIAGNOSIS CODE
4	40	ST				DIAGNOSIS DESCRIPTION
6	2	ID	R		52	DIAGNOSIS/DRG TYPE

3.5.2.0 DG1 field definitions

3.5.2.1 SET ID - DIAGNOSIS (SI)

SET ID is a number that uniquely identifies the individual transaction for adding, deleting or updating the diagnosis in the patient's record.

3.5.2.2 DIAGNOSIS CODING METHOD (ID)

ICD9 is the recommended coding method. Only the following value is expected/accepted.

HL7 (user-defined) Table 53 DIAGNOSIS CODING METHOD

Value	Description
19	ICD9

3.5.2.3 DIAGNOSIS CODE (ID)

Diagnosis code assigned to this diagnosis. This field accepts any ICD9 (International Classification of Diseases, 9th Revision) diagnosis code.

When the **VISTA** Surgery system transmits to the AAIS or ancillary system, this field contains either the **PRIN DIAGNOSIS CODE** or the **OTHER PREOP DIAG CODE**. The field is the actual ICD9 code number.

3.5.2.4 DIAGNOSIS DESCRIPTION (ST)

This field contains a description that best describes the diagnosis.

When the **VISTA** Surgery system transmits to the AAIS or ancillary system, this field contains the description from the **DIAGNOSIS** field (#3) in the ICD **DIAGNOSIS** file (#80).

3.5.2.6 DIAGNOSIS/DRG TYPE (ID)

This code identifies the type of diagnosis being sent. Only the following values are expected/accepted.

HL7 (user-defined) Table 52 DIAGNOSIS TYPE

Value	Description
P	Principal Diagnosis
PR	Pre-Operative Diagnosis
PO	Post-Operative Diagnosis

3.5.3 Segment: ERR - Error

The ERR segment is used to add error comments to acknowledgment messages.

SEQ	LEN	DT	R/O	RP/#	TBL#	ELEMENT NAME
1	80	CM	R	Y	60	ERROR CODE AND LOCATION

3.5.3.0 ERR field definitions

3.5.3.1 ERROR CODE AND LOCATION (CM)

ERROR CODE AND LOCATION is a composite element made up of the following:

<segment ID> <sequence> <field position> <code identifying error>

This field identifies an erroneous segment in another message. The second component is an index if there are more than one segment of type <segment ID>. The fourth component references a user-defined error table. This segment is sent by the *VISTA* Surgery system only if there is an application error.

3.5.4 Segment: MFA - Master File Acknowledgement

The MFA segment is used to acknowledge the change to the identified record.

SEQ	LEN	DT	R/O	RP/#	TBL#	ELEMENT NAME
1	3	ID	R		180	RECORD-LEVEL EVENT CODE
4	60	CE	R		181	ERROR RETURN CODE AND/OR TEXT
5	60	CE	R	Y		PRIMARY KEY VALUE

3.5.4.0 MFA field definitions

3.5.4.1 RECORD-LEVEL EVENT CODE (ID)

This field is used to define record-level events for the master file record identified by the MFI segment and the primary key field in this segment.

HL7 Table 180 RECORD-LEVEL EVENT CODE

Value	Description
MAD	Add record to master file
MDL	Delete record from master file
MUP	Update record for master file
MDC	Deactivate: discontinue using record in master file, but do not delete
MAC	Reactivate deactivated record

3.5.4.4 ERROR RETURN CODE AND/OR TEXT (CE)

This field reports on the status of the requested update. This is a site defined-table, specific to each master file being updated via this transaction.

All such tables will have at least the following two return values:

HL7 (user-defined) Table 181 MFN RECORD-LEVEL ERROR CODE

Value	Description
S	Successful posting of the record defined by the MFE segment
U	Unsuccessful posting of the record defined by the MFE segment

3.5.4.5 PRIMARY KEY VALUE (CE)

This field uniquely identifies the record of the master file (identified in the MFI segment) to be changed (as defined by the record-level event code).

3.5.5 Segment: MFE - Master File Entry

The MFE segment identifies the record and the action that is to be taken upon that record.

SEQ	LEN	DT	R/O	RP/#	TBL#	ELEMENT NAME
1	3	ID	R		180	RECORD-LEVEL EVENT CODE
2	20	ST	C			MFN CONTROL ID
3	26	TS				EFFECTIVE DATE/TIME
4	60	CE	R	Y		PRIMARY KEY VALUE

3.5.5.0 MFE field definitions

3.5.5.1 RECORD-LEVEL EVENT CODE (ID)

This field is used to define record-level events for the master file record identified by the MFI segment and the primary key field in this segment.

HL7 Table 180 RECORD-LEVEL EVENT CODE

Value	Description
MAD	Add record to master file
MDL	Delete record from master file
MUP	Update record for master file
MDC	Deactivate: discontinue using record in master file, but do not delete
MAC	Reactivate deactivated record

When **VISTA** sends an MFI-3 (MASTER FILE IDENTIFIER CODE) of REP this field will contain the value of MAD. This means that the ancillary system should replace the current file and add all of the new entries. When **VISTA** sends an MFI-3 of UPD this field will contain one of four values (MAD, MDL, MDC, or MAC).

3.5.5.2 MFN - CONTROL ID (ST)

A number or other identifier that uniquely identifies this change to this record from the point of view of the originating system.

When **VISTA** sends this field it will contain the IEN for records in files or a sequential number starting at one for the **VISTA** field set of codes.

3.5.5.3 EFFECTIVE DATE/TIME (TS)

The date/time the originating system expects the event to have been completed on the receiving system.

When *VISTA* sends this field it will contain the date/time that the new information was compiled and sent to the ancillary system.

3.5.5.4 PRIMARY KEY VALUE (CE)

This field uniquely identifies the record of the master file (identified in the MFI segment) to be changed (as defined by the record-level event code).

When *VISTA* sends this field it will contain the text name of the field/file record in this form.

Identifier	Text	Coding System
null	Administration method	null
null	ASA class	null
null	Attending code	null
null	Anesthesia approach	null
null	Anesthesia route	null
null	Baricity	null
null	Case schedule type	null
CPT-4 code	CPT-4 short description	C4
null	Epidural method	null
null	Extubated in	null
ICD9 code	ICD9 name	I9
null	Hospital Location	99VA44
null	Laryngoscope type	null
null	Medication name	99VA50
null	Medication route	null
null	Monitor name	99VA133.4
null	Patient status	null
SSN#	Person's name	99VA200
null	Principal anesthesia technique (Y/N)	null
null	Replacement fluid	99VA133.7
null	Site tourniquet applied	null
null	Tube type	null

3.5.6 Segment: MFI - Master File Identification

The MFI segment identifies the reference file and the action that is to be taken upon that file.

SEQ LEN DT R/O RP/# TBL# ELEMENT NAME

1	60	CE	R	N	175 MASTER FILE IDENTIFIER
3	3	ID	R		178 FILE-LEVEL EVENT CODE
6	2	ID	R		179 RESPONSE LEVEL CODE

3.5.6.0 MFI field definitions

3.5.6.1 MASTER FILE IDENTIFIER (CE)

MASTER FILE IDENTIFIER identifies standard and Z-type HL7 master files.

HL7 Table 175 MASTER FILE IDENTIFIER CODE

Identifier	Text	Coding System
null	ADMINISTRATION METHOD	L
null	ASA CLASS	L
null	ATTENDING CODE	L
null	ANESTHESIA APPROACH	L
null	ANESTHESIA ROUTE	L
null	BARICITY	L
null	CASE SCHEDULE TYPE	L
null	EPIDURAL METHOD	L
null	EXTUBATED IN	L
null	HOSPITAL LOCATION	99VA44
ZI9	ICD9	I9
null	LARYNGOSCOPE TYPE	L
ZRX	MEDICATION	99VA50
null	MEDICATION ROUTE	L
ZMN	MONITOR	99VA133.4
null	PATIENT STATUS	L
STF	PERSONNEL	99VA200
null	PRINCIPAL ANES TECHNIQUE (Y/N)	L
ZRF	REPLACEMENT FLUID	99VA133.7
null	SITE TOURNIQUET APPLIED	L
null	TUBE TYPE	L

**Note: See the CPT CODE Master File Update Specification Document for the details on interfacing the CPT4 codes.

3.5.6.3 FILE-LEVEL EVENT CODE (ID)

FILE-LEVEL EVENT CODE defines file-level event code.

HL7 Table 175 MASTER FILE IDENTIFIER CODE

Value	Description
REP	Replace current version of this master file with the version contained in this message.
UPD	Change file record as defined in the record level event code for each record that follows

Note that only MEDICATION, MONITOR, and REPLACEMENT FLUID files will contain UPD, all other files or fields will be sent as REP.

3.5.6.6 RESPONSE LEVEL CODE (ID)

RESPONSE LEVEL CODE specifies the application response level defined for a given Master File Message at the MFE segment level as defined in table 179.

HL7 Table 179 RESPONSE LEVEL CODE

Value	Description
NE	Never. No application level response needed
ER	Error/Reject conditions only. Only MFA segments denoting errors must be returned via the application level acknowledgment for this message
AL	Always. All MFA segments (whether denoting errors or not) must be returned via the application level acknowledgment message
SU	Success. Only MFA segments denoting success must be returned via the application level acknowledgment for this message

When **VISTA** sends this field it will contain NE.

3.5.7 Segment: MSA - Message Acknowledgment

The MSA segment contains information sent while acknowledging another message.

SEQ	LEN	DT	R/O	RP/#	TBL#	ELEMENT NAME
1	2	ID	R		8	ACKNOWLEDGMENT CODE
2	20	ST	R			MESSAGE CONTROL ID
3	80	ST				TEXT MESSAGE

3.5.7.0 MSA field definitions

3.5.7.1 ACKNOWLEDGMENT CODE (ID)

The ACKNOWLEDGMENT CODE can have the following values:

HL7 Table 8 ACKNOWLEDGMENT CODE

Value	Description
AA	Application Accept
AE	Application Error
AR	Application Reject

3.5.7.2 MESSAGE CONTROL ID (ST)

This field identifies the message sent by the sending system. It allows the sending system to associate this response with the message for which it is intended.

3.5.7.3 TEXT MESSAGE (ST)

This is an optional text field that further describes an error condition. The text may be printed in error logs or presented to an end user.

3.5.8 Segment: MSH - Message Header

The MSH segment defines the intent, source, destination, and some specifics of the syntax of a message.

SEQ	LEN	DT	R/O	RP/#	TBL#	ELEMENT NAME
1	1	ST	R			FIELD SEPARATOR
2	4	ST	R			ENCODING CHARACTERS
3	15	ST				SENDING APPLICATION
4	20	ST				SENDING FACILITY
5	30	ST				RECEIVING APPLICATION
6	30	ST				RECEIVING FACILITY
7	26	TS				DATE/TIME OF MESSAGE
8	40	ST				SECURITY
9	7	CM	R		76	MESSAGE TYPE
10	20	ST	R			MESSAGE CONTROL ID
11	1	ID	R		103	PROCESSING ID
12	8	ID	R		104	VERSION ID
15	2	ID			155	ACCEPT ACKNOWLEDGMENT TYPE APPLICATION ACKNOWLEDGMENT
16	2	ID			155	TYPE

3.5.8.0 MSH field definitions

3.5.8.1 FIELD SEPARATOR (ST)

This field is the separator between the segment ID and the first real field, MSH-2-ENCODING CHARACTERS. It serves as the separator and defines the character to be used as a separator for the rest of the message.

3.5.8.2 ENCODING CHARACTERS (ST)

This field is four characters in the following order: the component separator, repetition separator, escape character and subcomponent separator.

3.5.8.3 SENDING APPLICATION (ST)

This field is used for interface with lower level protocols.

When the *VISTA* Surgery system transmits to the AAIS or ancillary system, this field will contain SR SURGERY. When the AAIS or ancillary system transmits to the *VISTA* Surgery system, this field will contain SR AAIS.

3.5.8.4 SENDING FACILITY (ST)

This field addresses one of several occurrences of the same application within the sending system. It is entirely site-defined.

This field is the three digit number identifying the medical center division, as found in the *VISTA* INSTITUTION file (#4).

3.5.8.5 RECEIVING APPLICATION (ST)

This field is used for interface with lower level protocols.

When the AAIS or ancillary system transmits to the *VISTA* Surgery system, this field will contain SR AAIS. When the *VISTA* Surgery system transmits to the AAIS or ancillary system, this field will contain SR SURGERY.

3.5.8.6 RECEIVING FACILITY (ST)

This field identifies the receiving application among multiple identical instances of the application running on behalf of different organizations.

This field is the three digit number identifying the medical center division, as found in the *VISTA* INSTITUTION file (#4).

3.5.8.7 DATE/TIME OF MESSAGE (TS)

This field is the date/time that the sending system created the message. If the time zone is specified, it is used throughout the message as the default time zone.

3.5.8.8 SECURITY (ST)

In some applications of HL7 this field is used to implement security features. Its use is not yet further specified.

3.5.8.9 MESSAGE TYPE (CM)

MESSAGE TYPE is a composite element made up of the following:

<message type> <trigger event>

The first component is the message type, found in table 76 - MESSAGE TYPE.

The second component is the trigger event code found in table 3 - EVENT TYPE

CODE. The receiving system uses this field to know the data segments to recognize, and possibly, the application to which to route this message.

3.5.8.10 MESSAGE CONTROL ID (ST)

This field is a number or other identifier that uniquely identifies the message. The receiving system echoes this ID back to the sending system in the Message Acknowledgment segment (MSA).

3.5.8.11 PROCESSING ID (ID)

This field is used to decide whether to process the message as defined in the HL7 application processing rules.

HL7 Table 103 PROCESSING ID

Value	Description
D	Debugging
P	Production
T	Training

3.5.8.12 VERSION ID (ID)

This field is matched by the receiving system to its own version to be sure the message is interpreted correctly. Only the following values are expected/accepted.

HL7 Table 104 VERSION ID

Value	Description
2.1	Release 2.1 March 1990
2.2	Release 2.2 December 1994

3.5.8.15 ACCEPT ACKNOWLEDGMENT TYPE (ID)

This field defines the conditions under which accept acknowledgments are required to be returned in response to this message.

HL7 Table 155 ACCEPT/APPLICATION ACKNOWLEDGMENT CONDITIONS

Value	Description
AL	Always
NE	Never
ER	Error/reject conditions only
SU	Successful completion only

3.5.8.16 APPLICATION ACKNOWLEDGMENT TYPE (ID)

This field defines the conditions under which application acknowledgments are required to be returned in response to this message.

HL7 Table 155 ACCEPT/APPLICATION ACKNOWLEDGMENT CONDITIONS

Value	Description
AL	Always
NE	Never
ER	Error/reject conditions only
SU	Successful completion only

3.5.9 Segment: NTE - Anesthesiologist Notes and Comments

The NTE segment is used to report the Anesthesiologists notes or comments.

SEQ	LEN	DT	R/O	RP/#	TBL#	ELEMENT NAME
1	4	SI				SET ID - NOTES AND COMMENTS
2	8	ID			105	SOURCE OF COMMENT
3	80	FT		Y		COMMENT

3.5.9.0 NTE field definitions

3.5.9.1 SET ID - NOTES AND COMMENTS (SI)

This field may be used where multiple NTE segments are included in a message. However, since this segment will be following the Anesthesia (OBR) segment, this field will be a sequential number starting at one.

3.5.9.2 SOURCE OF COMMENT (ID)

This field is used to identify the source of the note or comment.

HL7 Table 105 SOURCE OF COMMENT

Value	Description
L	Ancillary (filler) department is source of comment
P	Orderer (placer) is source of comment
O	Other system is source of comment

3.5.9.3 COMMENT (FT)

This field contains the comment.

**** NOTE:** This field has a length of 80 that will increase to its recommended 64k length with the release of the **VISTA HL7 V. 1.6.** package.

3.5.10 Segment: OBR - Observation Request

In the reporting of clinical data, the OBR serves as the report header. It identifies the observation set represented by the following observations.

SEQ	LEN	DT	R/O	RP/#	TBL#	ELEMENT NAME
1	4	SI				SET ID - OBSERVATION REQUEST
3	75	CM				FILLER ORDER NUMBER
4	200	CE	R			UNIVERSAL SERVICE ID
7	26	TS	C			OBSERVATION DATE/TIME
8	26	TS	C			OBSERVATION END DATE/TIME
16	60	CN		Y		ORDERING PROVIDER

3.5.10.0 OBR field definitions

3.5.10.1 SET ID - OBSERVATION REQUEST (SI)

SET ID - OBSERVATION REQUEST is a sequence number. For the first order transmitted, the sequence number is 1; for the second order, it is 2; and so on.

Seven different types of observations can be returned. The possible OBRs include those dealing with operation and procedure data, tourniquets, monitors, medications, occurrences, and anesthesia.

3.5.10.3 FILLER ORDER NUMBER (CM)

FILLER ORDER NUMBER is a composite element made up of the following:
<unique filler ID> <filler application ID>

This field is a permanent identifier for an order and its associated observations. The first component is a string that identifies an individual order segment. It identifies an order uniquely among all orders from a particular filling application.

When an observation result message is sent only the first component contains information. The information that is sent is the surgery case number.

3.5.10.4 UNIVERSAL SERVICE ID (CE)

UNIVERSAL SERVICE ID is a coded element made up of the following:
 <identifier> <text> <name of coding system> <alternate identifier> <alternate text> <name of alternate coding system>

This field is an identifier code for the observation. This can be based on local and/or universal codes.

When an observation result message is sent, two universal codes and four local codes can be returned. The codes transmitted for the identifier, text, and coding system are:

Identifier	Text	Coding System
5000.7	OPERATION	AS4
5000.8	ANESTHESIA	AS4
null	TOURNIQUET	L
null	REPLACEMENT FLUID	L
null	MONITOR	L
null	MEDICATION	L
null	PROCEDURE	L
null	INTRAOPERATIVE OCCURRENCE	L
null	POSTOPERATIVE OCCURRENCE	L
null	PROCEDURE OCCURRENCE	L
null	NONOPERATIVE OCCURRENCE	L

When an observation result message is sent, the alternate identifier, text, and coding system are used when the OBR is for ANESTHESIA or MEDICATION.

When the OBR is for ANESTHESIA the alternate text and coding system are

Alt. Identifier	Alt. Text	Alt. Coding System
null	name of anesthesia technique listed below	L

The expected anesthesia techniques are GENERAL, MONITORED ANESTHESIA CARE, SPINAL, EPIDURAL, LOCAL, and OTHER.

The alternate identifier, text, and coding system are

Alt. Identifier	Alt. Text	Alt. Coding System
null	name of monitor	99VA133.4

The alternate coding system component is 99VA133.4. The information comes from the VISTA MONITORS file (#133.4).

When the OBR is for MEDICATION the alternate text and coding system are

Alt. Identifier	Alt. Text	Alt. Coding System
null	name of medication	99VA50

The alternate coding system component is 99VA50. The information comes from the VISTA DRUG file (#50).

3.5.10.7 OBSERVATION DATE/TIME (TS)

The OBSERVATION DATE/TIME is the clinically relevant date/time of the observation. In the case of observations taken directly from a subject, it is the actual date and time the observation is obtained.

When an observation result message is sent this field contains the time the operation begins, the tourniquet is applied, the monitor is installed, the procedure begins, or the medication is administered.

3.5.10.8 OBSERVATION END DATE/TIME (TS)

The OBSERVATION END DATE/TIME is the end date and time of a study or timed specimen collection. If an observation takes place over a substantial period of time, it indicates when the observation period ended.

When an observation result message is sent this field contains the time the operation ends, the tourniquet is released, the procedure ends, or the monitor is removed.

3.5.10.16 ORDERING PROVIDER (CN)

ORDERING PROVIDER is a composite ID number and name made up of the following:

<id number> <family name> <given name> <middle initial or name> <suffix>
<prefix> <degree> <source table >

This field identifies the provider who ordered the test. The ID code and the name may be present.

When an observation result message is sent this field contains information about the person ordering the medication when the OBR is for MEDICATION. The id number (social security number), uniquely identifies the ordering provider. The name component is from the Surgery sub-field ORDERED BY (#2 of Subfile #130.34). All components must match the VISTA NEW PERSON file (#200).

3.5.11 Segment: OBX - Observation

The OBX segment is used to transmit a single observation or observation fragment.

SEQ	LEN	DT	R/O	RP/#	TBL#	ELEMENT NAME
1	4	SI				SET ID - OBSERVATION SIMPLE
2	2	ID	R		125	VALUE TYPE
3	80	CE	R			OBSERVATION IDENTIFIER
5	var	ST				OBSERVATION VALUE
6	60	CE				UNITS
11	2	ID	R		85	OBSERV RESULT STATUS
14	26	TS				DATE/TIME OF THE OBSERVATION
16	60	CN				RESPONSIBLE OBSERVER

3.5.11.0 OBX field definitions

3.5.11.1 SET ID - OBSERVATION SIMPLE (SI)

SET ID - OBSERVATION SIMPLE is a sequence number used to identify the segment repetitions.

3.5.11.2 VALUE TYPE (ID)

This field is the format of the observation value in OBX.

Although there are other entries in the HL7 table, only the following values are transmitted.

HL7 Table 125 VALUE TYPE

Value	Description
TX	Text
TS	Time stamp (date and time)
CN	Composite ID and name
CE	Coded entry
NM	Numeric

3.5.11.3 OBSERVATION IDENTIFIER (CE)

OBSERVATION IDENTIFIER is a coded element made up of the following:
<identifier> <text> <name of coding system> <alternate identifier> <alternate text> <name of alternate coding system>

This field is a unique identifier for the observation.

When the **VISTA** Surgery system transmits to the AAIS or ancillary system, the identifier component is the Universal (AS4) Identifier for Common Test Battery as defined in 7.A of the HL7 2.2 Standard. The text component indicates height, body weight, blood pressure, pulse rate, or temperature. Additionally, the PATIENT CLASS, ANES. SUPERVISE CODE, CANCEL DATE and CANCEL REASON for canceled cases, MEDICAL SPECIALTY for NON-OR cases, and SURGICAL SPECIALTY and SURGEON PGY for OR cases are transmitted. Patient class refers to the patient's hospital admission status at the time of surgery. With this transmission, the identifier component is null, the text component are as shown above, and the coding system is L.

When the AAIS or ancillary system transmits to the VISTA Surgery system, the identifier, text and coding system components are found in the tables below.

When the OBR is for OPERATION the OBX OBSERVATION IDENTIFIER is

Identifier	Text	Coding System
null	ANES. SUPER.	99VA200
null	ANES. SUPERVISE CODE	L
null	ANESTHESIA AVAILABLE TIME	L
null	ANESTHESIA CARE END TIME	L
null	ANESTHESIA CARE START TIME	L
1000	ANESTHESIA TEMP	AS4
null	ASA CLASS	L
null	ASSISTANT ANESTHETIST	99VA200
null	ATT. SURGEON	99VA200
null	ATTENDING CODE	L
null	BLOOD LOSS	L
1002	BP	AS4
null	CASE SCHEDULE TYPE	L
1006.2	HR	AS4
null	INDUCTION COMPLETE	L
null	NURSE PRESENT TIME	L
null	OR LOCATION	99VA44
null	OR SETUP TIME	L
null	PAC(U) ADMIT TIME	L
null	PAC(U) DISCHARGE TIME	L
null	PRIN. ANES.	99VA200
null	RELIEF ANESTHETIST	99VA200
null	REPLACEMENT FLUID	99VA200
1007	RR	AS4
null	SURGEON	99VA200
null	SURGEON PGY	L
null	SURGEON PRESENT TIME	L
null	TIME PATIENT IN HOLDING AREA	L
null	TIME PATIENT IN OR	L
null	TIME PATIENT OUT OR	L
null	TOTAL URINE OUTPUT	L

When the OBR is for TOURNIQUET the OBX OBSERVATION IDENTIFIER is

<u>Identifier</u>	<u>Text</u>	<u>Coding System</u>
null	SITE TOURNIQUET APPLIED	L

The alternate identifier, text and coding system are from the following table.

<u>Alt Identifier</u>	<u>Alt Text</u>	<u>Alt Coding System</u>
null	RIGHT UPPER LEG	L
null	RIGHT UPPER ARM	L
null	LEFT UPPER LEG	L
null	LEFT UPPER ARM	L
null	RIGHT ANKLE	L
null	LEFT ANKLE	L

When the OBR is for MONITOR the OBX OBSERVATION IDENTIFIER is

<u>Identifier</u>	<u>Text</u>	<u>Coding System</u>
null	MONITOR APPLIED BY	L

When the OBR is for MEDICATION the OBX OBSERVATION IDENTIFIER is

<u>Identifier</u>	<u>Text</u>	<u>Coding System</u>
null	MEDICATION USED	L
null	MEDICATION ROUTE	L

When the OBR is for ANESTHESIA the OBX OBSERVATION IDENTIFIER is

<u>Identifier</u>	<u>Text</u>	<u>Coding System</u>
null	ADMINISTRATION METHOD	L
null	ANESTHESIA AGENT	L
null	ANESTHESIA APPROACH	L
null	ANESTHESIA ROUTE	L
null	BARICITY	L
null	END VENT RATE	L
null	END VENT TV	L
null	EPIDURAL METHOD	L
null	EXTUBATED BY	99VA200
null	EXTUBATED IN	L
null	LARYNGOSCOPE SIZE	L
null	LARYNGOSCOPE TYPE	L
null	PATIENT STATUS	L
null	PRINCIPAL ANES TECHNIQUE (Y/N)	L
null	TEST DOSE	L
null	TUBE SIZE	L
null	TUBE TYPE	L

For the ANESTHESIA AGENT and TEST DOSE OBXs, alternate identifier, text, and coding system are identified in the tables below.

For ANESTHESIA AGENT, the alternate fields are

<u>Alt. Identifier</u>	<u>Alt. Text</u>	<u>Alt. Coding System</u>
null	name of anesthesia agent	99VA50

For TEST DOSE, the alternate fields are

<u>Alt. Identifier</u>	<u>Alt. Text</u>	<u>Alt. Coding System</u>
null	name of test dose drug	99VA50

The alternate coding system component is 99VA50. The information comes from the **VISTA DRUG** file (#50).

When the OBR is for PROCEDURE the OBX OBSERVATION IDENTIFIER is

Identifier	Text	Coding System
null	ANES. SUPER.	99VA200
null	ANES. SUPERVISE CODE	L
null	ANESTHESIA AVAILABLE TIME	L
null	ANESTHESIA CARE END TIME	L
null	ANESTHESIA CARE START TIME	L
1000	ANESTHESIA TEMP	AS4
null	ASA CLASS	L
null	ASSISTANT ANESTHETIST	99VA200
null	ATTEND PROVIDER	99VA200
null	BLOOD LOSS	L
1002	BP	AS4
1006.2	HR	AS4
null	INDUCTION COMPLETE	L
null	NON-OR LOCATION	99VA44
null	PRIN. ANES.	99VA200
null	PROVIDER	99VA200
null	RELIEF ANESTHETIST	99VA200
1007	RR	AS4
null	TOTAL URINE OUTPUT	L

When the OBR is for PROCEDURE OCCURRENCE the OBX OBSERVATION IDENTIFIER is

Identifier	Text	Coding System
null	DATE PROCEDURE OCCURRENCE NOTED	L
null	PROCEDURE OCCURRENCE CATEGORY	L
null	PROCEDURE OCCURRENCE OUTCOME	L
null	PROCEDURE OCCURRENCE TREATMENT	L

When the OBR is for INTRAOPERATIVE OCCURRENCE the OBX OBSERVATION IDENTIFIER is

Identifier	Text	Coding System
null	INTRAOP OCCURRENCE CATEGORY	L
null	INTRAOP OCCURRENCE CODE	L
null	INTRAOP OCCURRENCE OUTCOME	L

When the OBR is for POSTOPERATIVE OCCURRENCE the OBX OBSERVATION IDENTIFIER is

Identifier	Text	Coding System
null	DATE POSTOP OCCURRENCE NOTED	L
null	POSTOP OCCURRENCE CATEGORY	L
null	POSTOP OCCURRENCE CODE	L
null	POSTOP OCCURRENCE OUTCOME	L

When the OBR is for NONOPERATIVE OCCURRENCE the OBX OBSERVATION IDENTIFIER is

Identifier	Text	Coding System
null	DATE NONOP OCCURRENCE NOTED	L
null	NONOP OCCURRENCE CATEGORY	L
null	NONOP OCCURRENCE OUTCOME	L
null	NONOP OCCURRENCE TREATMENT	L

3.5.11.5 OBSERVATION VALUE (ST)

This field is the value observed by the observation producer. The length of this field is variable, depending upon the value type.

When the **VISTA** Surgery system transmits to the AAIS or ancillary system, **PATIENT CLASS** is transmitted. This refers to the patient's hospital admission status at the time of surgery. The identifier component is null, the text component is either **INPATIENT** or **OUTPATIENT**, and the coding system is L.

When an observation result message is sent the observation value varies based upon the OBX. The observation value is identified in the table below.

Value Type	OBX	Observation Value
TX	BP	systolic/diastolic
TX	MEDICATION USED	dose - text
TS	ANESTHESIA AVAILABLE TIME	date time
TS	ANESTHESIA CARE END TIME	date time
TS	ANESTHESIA CARE START TIME	date time
TS	INDUCTION COMPLETE	date time
TS	NURSE PRESENT TIME	date time
TS	SURGEON PRESENT TIME	date time
TS	TIME PATIENT IN HOLDING AREA	date time
TS	TIME PATIENT IN OR	date time
TS	TIME PATIENT OUT OR	date time
TS	PAC(U) ADMIT TIME	date time
TS	PAC(U) DISCHARGE TIME	date time
CN	ANES. SUPER.	ID, name in HL7 format
CN	ASSISTANT ANESTHETIST	ID, name in HL7 format
CN	ATT. SURGEON	ID, name in HL7 format
CN	ATTEND PROVIDER	ID, name in HL7 format
CN	EXTUBATED BY	ID, name in HL7 format
CN	MONITOR APPLIED BY	ID, name in HL7 format
CN	PRIN. ANES.	ID, name in HL7 format
CN	PROVIDER	ID, name in HL7 format
CN	RELIEF ANESTHETIST	ID, name in HL7 format
CN	SURGEON	ID, name in HL7 format
NM	ANESTHESIA AGENT	dose in milligrams
NM	ANESTHESIA TEMP	temperature °C
NM	BLOOD LOSS	number of milliliters
NM	END VENT RATE	end vent rate
NM	END VENT TV	end vent tidal volume setting
NM	HR	pulse rate
NM	LARYNGOSCOPE SIZE	laryngoscope size
NM	OR SETUP TIME	number of minutes
NM	REPLACEMENT FLUID USED	number of milliliters
NM	RR	rate of respiration
NM	SITE TOURNIQUET APPLIED	millimeter (HG)
NM	SURGEON PGY	number of post graduate years
NM	TEST DOSE	dose in milligrams
NM	TOTAL URINE OUTPUT	number of milliliters
NM	TUBE SIZE	tube size

The remaining OBXs are coded elements which are *VISTA* Surgery set of codes values. The elements of the OBSERVATION VALUE coded entry consist of <identifier> <text> <name of coding system>. The identifier is always null. The name of the coding system is always L for local coding system. The text value is identified in the Observation Value column.

OBX	Observation Value
ADMINISTRATION METHOD	BOLUS DRIP INFUSION INTERMITTENT
ANESTHESIA APPROACH	BLIND BLIND LARYNGOSCOPY DIRECT VISION LARYNGOSCOPY FIBEROPTIC LARYNGOSCOPY RAPID SEQUENCE
ANESTHESIA ROUTE	NASAL ORAL TRACHEOSTOMY
ANES. SUPERVISE CODE	1. STAFF CASE 2. STAFF ASSISTED BY RESIDENT OR...C.R.N.A. 3. STAFF ASSISTING C.R.N.A. 4. STAFF ASSISTING RESIDENT 5. STAFF CONSULTING IN OR 6. STAFF AVAILABLE IN OR SUITE 7. STAFF AVAILABLE IN HOSP./UNIV COMPLEX 8. STAFF CALLED FOR EMERGENCY 9. C.R.N.A. INDEPENDENT DUTY - ...MD/DDS SUP.
ASA CLASS	1-NO DISTURB. 1E-NO DISTURB-EMERG 2-MILD DISTURB. 2E-MILD DISTURB.-EMERG 3-SEVERE DISTURB. 3E-SEVERE DIST.-EMERG. 4-LIFE THREAT 4E-LIFE THREAT-EMERG. 5-MORIBUND 5E-MORIBUND-EMERG

OBX	Observation Value
ATTENDING CODE	0. STAFF ALONE 1. ATTENDING IN O.R. 2. ATTENDING IN O.R. SUITE 3. ATTENDING NOT PRESENT, BUT AVAILABLE LEVEL 0. ATTENDING DOING THE OPERATION LEVEL 1. ATTENDING IN O.R. ASSISTING THE RESIDENT LEVEL 2. ATTENDING IN O.R., NOT SCRUBBED LEVEL 3. ATTENDING NOT PRESENT IN O.R. SUITE, IMMEDIATELY AVAILABLE LEVEL A: ATTENDING DOING THE OPERATION LEVEL B: ATTENDING IN O.R., SCRUBBED LEVEL C: ATTENDING IN O.R., NOT SCRUBBED LEVEL D: ATTENDING IN O.R. SUITE, IMMEDIATELY AVAILABLE LEVEL E: EMERGENCY CARE, ATTENDING CONTACTED ASAP LEVEL F: NON-OR PROCEDURE DONE IN THE OR, ATTENDING IDENTIFIED
BARICITY	HYPERBARIC HYPOBARIC ISOBARIC
CASE SCHEDULE TYPE	ADD ON (NON-EMERGENT) ELECTIVE EMERGENCY STANDBY URGENT
EPIDURAL METHOD	HANGING DROP LOSS OF RESISTANCE
EXTUBATED IN	BOTH OR PACU SICU

OBX	Observation Value
LARYNGOSCOPE TYPE	FIBEROPTIC BRONCHOSCOPE FIBEROPTIC LARYNGOSCOPE FIBEROPTIC STYLET GUEDEL MACINTOSH MILLER WIS-FOREGGER OTHER MEDICATION ROUTE INFILTRATE INTRAMUSCULAR INTRAVENOUS IRRIGATION PREPUMP RECTAL SUBCUTANEOUS SUBLINGUAL TOPICAL OTHER
PATIENT STATUS	AWAKE INDUCED SEDATED
PRINCIPAL ANES TECHNIQUE (Y/N)	NO YES
TUBE TYPE	2 LUMEN, LT. ENDOBRONCHIAL 2 LUMEN, RT. ENDOBRONCHIAL BIVONA CUFF LASER PROTECTED PVC LOW PRESSURE REINFORCED SILASTIC LOW PRESSURE TRACHEOSTOMY CUFFED OTHER

3.5.11.6 UNITS (CE)

UNITS is a coded element made up of the following:

<identifier> <text> <name of coding system>

The default coding system for UNITS consists of the ISO abbreviations as defined in section 7.1.4 of the HL7 V. 2.2 Standard.

When the **VISTA** Surgery system transmits to the AAIS or ancillary system and when the AAIS or ancillary system transmits to the **VISTA** Surgery system, only the ISO abbreviation is sent in the identifier component.

3.5.11.11 OBSERV RESULT STATUS (ID)

This field reflects the current completion status of the results for one OBSERVATION IDENTIFIER.

When the **VISTA** Surgery system transmits to the AAIS or ancillary system, this field contains S.

When the AAIS or ancillary system transmits to the **VISTA** Surgery system, this field contains F.

Although there are other entries in the HL7 table, only the following values are transmitted.

HL7 Table 85 - OBSERVATION RESULT STATUS CODES INTERPRETATION

Value	Description
F	Final results; only be changed with a can corrected result
S	Partial results

3.5.11.14 DATE/TIME OF THE OBSERVATION (TS)

The observation date-time is the physiologically relevant date-time or the closest approximation to that date-time. In the case of observations taken directly on the patient, the observation date-time is the date-time that the observation is performed. This field is used only when the **VISTA** Surgery system transmits to the AAIS or ancillary system.

3.5.11.16 RESPONSIBLE OBSERVER (CN)

RESPONSIBLE OBSERVER is a composite ID number and name made up of the following:

<id number> <family name> <given name> <middle initial or name> <suffix>
<prefix> <degree> <source table ID> This field identifies the person responsible for the observation (i.e., the person who either performed or verified it).

When the **VISTA** Surgery system transmits to the AAIS or ancillary system and when the AAIS or ancillary system transmits to the **VISTA** Surgery system, the id number (social security number), uniquely identifies the responsible observer. The name component is from the VISTA NEW PERSON file (#200).

3.5.12 Segment: PID – Patient Identification

The PID segment is used by all applications as the primary means of communicating patient identification information. This segment contains permanent patient identifying, and demographic information that is not likely to change frequently.

SEQ	LEN	DT	R/O	RP/#	TBL#	ELEMENT NAME
1	4	SI				SET ID - PATIENT ID
3	20	CM	R	Y		PATIENT ID (INTERNAL ID)
4	12	ST				ALTERNATE PATIENT ID
5	48	PN	R			PATIENT NAME
6	30	ST				MOTHER'S MAIDEN NAME
7	8	DT				DATE OF BIRTH
8	1	ID			1	SEX
10	1	ID			5	RACE
11	106	AD		Y		PATIENT ADDRESS
13	40	TN		Y		PHONE NUMBER - HOME
16	1	ID			2	MARITAL STATUS
17	3	ID			6	RELIGION
19	16	ST				SSN NUMBER - PATIENT

3.5.12.0 PID field definitions

3.5.12.1 SET ID - PATIENT ID (SI)

SET ID - PATIENT ID is a sequence number used to identify the segment repetitions.

3.5.12.3 PATIENT ID (INTERNAL ID) (CM)

PATIENT ID (INTERNAL ID) is a composite element made up of the following: <patient ID> <check digit> <check digit scheme> <assigning facility ID> <type>

When the VISTA Surgery system transmits to the AAIS or ancillary system, the first component is the unique internal entry number from the PATIENT file (#2). The second and third components are the check digit and check digit scheme.

3.5.12.4 ALTERNATE PATIENT ID (ST)

This field contains an alternate identification number.

When the **VISTA** Surgery system transmits to the AAIS or ancillary system, the Brief ID for a patient is sent. It is composed of the last four numbers of the SSN.

3.5.12.5 PATIENT NAME (PN)

The PATIENT NAME field is in standard HL7 format.

3.5.12.6 MOTHER'S MAIDEN NAME (ST)

This field is the family name under which the mother was born. It is used to disambiguate patients with the same last name.

3.5.12.7 DATE OF BIRTH (DT)

This field is the patient's date of birth.

3.5.12.8 SEX (ID)

This field is the patient's sex. Although there are other entries in the HL7 table, only the following values are transmitted.

HL7 Table 1 - SEX

Value	Description
F	Female
M	Male

3.5.12.10 RACE (ID)

This field is the patient's race. **VISTA** Surgery is sending the table value and the text description from the user defined table 5.

HL7 (user defined) Table 5 - RACE

Value	Description
1	HISPANIC, WHITE
2	HISPANIC, BLACK
3	AMERICAN INDIAN OR ALASKA NATIVE
4	BLACK, NOT OF HISPANIC ORIGIN
5	ASIAN OR PACIFIC ISLANDER
6	WHITE, NOT OF HISPANIC ORIGIN
7	UNKNOWN

3.5.12.11 PATIENT ADDRESS (AD)

This field is the mailing address of the patient.

3.5.12.13 PHONE NUMBER - HOME (TN)

This field is the patient's home phone number.

3.5.12.16 MARITAL STATUS (ID)

This field is the patient's marital status. These entries correspond to the **VISTA** MARITAL STATUS file (#11).

HL7 (user defined) Table 2 - MARITAL STATUS

Value	Description
S	Separated
D	Divorced
M	Married
N	Never Married
W	Widow/Widower
U	Unknown

3.5.12.17 RELIGION (ID)

This field is the patient's religion. These entries correspond to the **VISTA** RELGION file (#13).

HL7 (user defined) Table 6 - RELIGION

Value	Description
0	CATHOLIC
1	JEWISH
2	EASTERN ORTHODOX
3	BAPTIST
4	METHODIST
5	LUTHERAN
6	UNITED CHURCH OF CHRIST
7	PRESBYTERIAN
8	EPISCOPALIAN
9	ADVENTIST
10	ASSEMBLY OF GOD
11	BRETHREN
12	CHRISTIAN SCIENTIST

HL7 (user defined) Table 6 - RELIGION cont.

Value	Description
13	CHURCH OF CHRIST
14	CHURCH OF GOD
15	DISCIPLES OF CHRIST
16	EVANGELICAL COVENANT
17	FRIENDS
18	JEHOVAH'S WITNESS
19	LATTER-DAY SAINTS
20	ISLAM
21	NAZARENE
22	OTHER
23	PENTECOSTAL
24	PROTESTANT, OTHER
25	PROTESTANT, NO DENOMINATION
26	REFORMED
27	SALVATION ARMY
28	UNITARIAN; UNIVERSALIST
29	UNKNOWN/NO PREFERENCE
30	NATIVE AMERICAN
31	BUDDHIST

3.5.12.19 SSN NUMBER - PATIENT (ST)

This field is the patient's social security number.

When the *VISTA* Surgery system transmits to the AAIS or ancillary system, this number contains no dashes.

3.5.13 Segment: STF - Staff Identification

The STF segment is used to identify personnel associated with cases in the Surgery Case file (#130).

SEQ	LEN	DT	R/O	RP/#	TBL#	ELEMENT NAME
1	60	CE	R			STF - PRIMARY KEY VALUE
3	48	PN	O			STAFF NAME
13	26	CM	O	Y		INACTIVATION DATE

3.5.13.0 STF field definition

3.5.13.1 STF - PRIMARY KEY VALUE (CE)

This field must match MFE-4 - PRIMARY KEY VALUE to identify which entry is being referenced.

3.5.13.3 STAFF NAME (PN)

This field identifies the staff person's name in the form:
<family name><given name><middle initial or name>

3.5.13.13 INACTIVATION DATE (CM)

Components: <date (TS)><institution name (CE)>

This field identifies the date the staff became inactive for an institution.

Note that the CE component of this field uses the subcomponent character for its delimiters.

3.5.14 Segment: QRD - Query Definition

The QRD segment is used to define a query.

SEQ	LEN	DT	R/O	RP/#	TBL#	ELEMENT NAME
1	26	TS	R			QUERY DATE/TIME
2	1	ID	R		106	QUERY FORMAT CODE
3	1	ID	R		91	QUERY PRIORITY
4	10	ST	R			QUERY ID
7	10	CQ	R		126	QUANTITY LIMITED REQUEST
8	20	ST	R	Y		WHO SUBJECT FILTER
9	3	ID	R	Y	48	WHAT SUBJECT FILTER
10	20	ST	R	Y		WHAT DEPARTMENT DATA CODE

3.5.14.0 QRD field definitions

3.5.14.1 QUERY DATE/TIME (TS)

This field is the date and time the query is generated by the application program.

3.5.14.2 QUERY FORMAT CODE (ID)

This field contains the query format code.

When the AAIS queries the **VISTA** Surgery system, this field always contains the code R.

HL7 Table 106 - QUERY FORMAT CODE

Value	Description
D	Response is in display format
R	Response is in record-oriented format

3.5.14.3 QUERY PRIORITY (ID)

This field contains the time frame in which the response is expected.

When the AAIS queries the **VISTA** Surgery system, this field always contains the priority I.

HL7 Table 91 - QUERY PRIORITY

Value	Description
D	Deferred
I	Immediate

3.5.14.4 QUERY ID (ST)

This field is a unique identifier for the query. It is assigned by the querying application, and returned intact by the responding application.

3.5.14.7 QUANTITY LIMITED REQUEST (CQ)

QUANTITY LIMITED REQUEST is a composite quantity with units made up of the following: <quantity> <units>

This field is the maximum length of the response that can be accepted by the requesting system. Valid responses are numerical values given in the units specified in the second component.

When the AAIS queries the **VISTA** Surgery system, this field contains 1~RD (one record).

HL7 Table 126 - QUANTITY LIMITED REQUEST

Value	Description
CH	Characters
LI	Lines
PG	Pages
RD	Records
ZO	Locally defined

3.5.14.8 WHO SUBJECT FILTER (ST)

This field identifies the subject, or who the inquiry is about.

When the AAIS queries the **VISTA** Surgery system, this field contains either the selected patient's name in HL7 format or the words ALL for all cases requested, scheduled, not complete or non-OR.

3.5.14.9 WHAT SUBJECT FILTER (ID)

This field describes the kind of information that is required to satisfy the request. Valid codes define the type of transaction inquiry and may be extended locally during implementation. Refer to HL7 table 48 for a complete list of table entries.

When the AAIS queries the *VISTA* Surgery system, this field contains OTH.

3.5.14.10 WHAT DEPARTMENT DATA CODE (ST)

This field can include test number, procedure number, drug code, item number, order number, etc. The contents of this field are determined by the contents of the previous field.

When the AAIS queries the *VISTA* Surgery system, this field contains either the selected patient's social security number (no dashes) or the words ALL.

3.5.15 Segment: QRF - Query Filter

The QRF segment is used with the QRD segment to further refine the content of a query.

SEQ	LEN	DT	R/O	RP/#	TBL#	ELEMENT NAME
1	20	ST	R	Y		WHERE SUBJECT FILTER
2	26	TS				WHEN DATA START DATE/TIME
3	26	TS				WHEN DATA END DATE/TIME

3.5.15.0 QRF field definitions

3.5.15.1 WHERE SUBJECT FILTER (ST)

This field identifies the department, system, or subsystem to which the query pertains.

When the AAIS queries the **VISTA** Surgery system, this field contains SURGERY.

3.5.15.2 WHEN DATA START DATE/TIME (TS)

Data representing dates and times equal or after this date should be included.

When the AAIS queries the **VISTA** Surgery system, this field contains the date for which surgery cases are requested. Date without time is transmitted.

3.5.15.3 WHEN DATA END DATE/TIME (TS)

Data representing dates and times the same as or before this date should be included.

When the AAIS queries the **VISTA** Surgery system, this field contains the date for which surgery cases are requested. The date used for WHEN DATA END DATE/TIME is the same as the date sent in WHEN DATA START DATE/TIME. Date without time is transmitted.

3.5.16 Segment: ZCH - Schedule Appointment Information

This segment is based upon the proposed HL7 Scheduling chapter, which is under development. The ZCH segment contains general information about the scheduled appointment.

SEQ	LEN	DT	R/O	RP/#	TBL#	ELEMENT NAME
1	22	CM	R			PLACER SCHEDULE REQUEST ID
2	22	CM	C			FILLER SCHEDULE REQUEST ID
3	22	CM	R			PLACER GROUP NUMBER
4	200	CE	R			EVENT REASON
5	200	CE				APPOINTMENT REASON
6	20	CQ				APPOINTMENT DURATION
7	200	TQ	R	Y		APPOINTMENT TIMING QUANTITY
12	38	CN	R			FILLER CONTACT PERSON
17	22	CM				PARENT FILLER SCHEDULE REQUEST

3.5.16.0 ZCH field definitions

3.5.16.1 PLACER SCHEDULE REQUEST ID (CM)

PLACER SCHEDULE REQUEST ID is a composite element made up of the following:

<unique placer schedule request number> <placer application ID>

This field is the placer application's permanent identifier for the appointment request.

When the *VISTA* Surgery system transmits to the AAIS or ancillary system, all components are null.

3.5.16.2 FILLER SCHEDULE REQUEST ID (CM)

FILLER SCHEDULE REQUEST ID is a composite element made up of the following:

<unique filler schedule request number> <filler application ID>

This field is the filler application's permanent identifier for the appointment request.

When the *VISTA* Surgery system transmits to the AAIS or ancillary system, only the first component is included. It is the surgery case number as found in the VISTA SURGERY file (#130).

3.5.16.3 PLACER GROUP NUMBER (CM)

PLACER GROUP NUMBER is a composite element made up of the following:

<unique placer group number> <placer application ID>

This field allows a placer application to group sets of appointment requests together, and subsequently identify the group.

When the **VISTA** Surgery system transmits to the AAIS or ancillary system, all components are null.

3.5.16.4 EVENT REASON (CE)

EVENT REASON is a coded element made up of the following:

<identifier> <text> <name of coding system>

This field may contain any code describing the reason the specific event is occurring.

When the **VISTA** Surgery system transmits to the AAIS or ancillary system, the following components are included. The identifier is the CASE STATUS value or event code. The text is the CASE STATUS description or trigger event. The text is capitalized and in parentheses. Name of coding system is L, or local. The following values can be expected.

CASE STATUS

Value	Description
S12	Notification of New Appointment Booking - includes all new requested, scheduled or emergent cases. (REQUESTED), (SCHEDULED), or (NOT COMPLETE)
S13	Notification of Appointment Rescheduling - includes changing an existing case's requested or scheduled date. (REQUESTED) or (SCHEDULED)
S14	Notification of Appointment Modification - includes modifications to an existing case. (REQUESTED), (SCHEDULED), (NOT COMPLETE), (COMPLETE), or (ABORTED)
S15	Notification of Appointment Cancellation - includes cancelling a scheduled operation. (CANCELLED)
S17	Notification of Appointment Deletion - includes deleting a request or emergent case. (DELETED)

3.5.16.5 APPOINTMENT REASON (CE)

APPOINTMENT REASON is a coded element made up of the following:

<identifier> <text> <name of coding system>

This field contains the identifier code for the reason the appointment is to be performed.

When the **VISTA** Surgery system transmits to the AAIS or ancillary system, the identifier contains the Surgery PRINCIPAL PROCEDURE CODE, which is the CPT code for the principal procedure. The text is the short description for the CPT code. The coding system component is C4, the standard CPT coding method.

3.5.16.6 APPOINTMENT DURATION (CQ)

APPOINTMENT DURATION is a composite quantity with units made up of the following:

<quantity> <units> This field contains the amount of time being requested for the appointment. The first component contains the duration amount. The units component contains a code describing the units of time used in expressing the quantity component.

When the **VISTA** Surgery system transmits to the AAIS or ancillary system, the quantity contains the Surgery ESTIMATED CASE LENGTH.

3.5.16.7 APPOINTMENT TIMING QUANTITY (TQ)

APPOINTMENT TIMING QUANTITY is a quantity/timing field made up of the following:

<quantity> <interval> <duration> <start date/time> <end date/time> <priority>
<condition> <text> <conjunction> <order sequencing>

This field describes the scheduled appointment's timing and quantity, as scheduled by the filler application.

When the **VISTA** Surgery system transmits to the AAIS or ancillary system, only the start date/time, end date/time and order sequencing components are included.

For a scheduled case, the start date/time is the Surgery field SCHEDULED START TIME (#10). For all other cases, the start date/time is the Surgery field DATE OF OPERATION (#.09).

For a scheduled case, the end date/time is the Surgery field SCHEDULED END TIME (#11). For all other cases, the end date/time is null.

The order sequencing component contains the Surgery field CASE SCHEDULE ORDER (#.037). This field contains the sequence in which the surgeon expects to do the case if the surgeon has more than one case scheduled for the day.

3.5.16.12 FILLER CONTACT PERSON (CN)

FILLER CONTACT PERSON is a composite ID number and name made up of the following:

<id number> <family name> <given name> <middle initial or name> <suffix> <prefix> <degree> <source table ID> This field identifies the person responsible for the scheduling of the requested appointment.

When the *VISTA* Surgery system transmits to the AAIS or ancillary system, the id number (social security number), uniquely identifies the person requesting or scheduling this operative procedure. The name component is from the Surgery field SURG SCHED PERSON (#1.099). All components must match the *VISTA* NEW PERSON file (#200).

3.5.16.17 PARENT FILLER SCHEDULE REQUEST (CM)

PARENT FILLER SCHEDULE REQUEST is a composite element made up of the following: <unique filler schedule request number> <filler application ID> This field relates a child to its parent, when a parent-child relationship exists. It contains the filler application's permanent identifier for the parent of the appointment request.

When the *VISTA* Surgery system transmits to the AAIS or ancillary system, the unique filler schedule request number is the Surgery field CONCURRENT CASE (#35). This is the patient's concurrent case number. It identifies the operation, by case number, which is to occur at the same time by another surgical specialty.

3.5.17 Segment: ZIG - Appointment Information - General Resource

This segment is based upon the proposed HL7 Scheduling chapter, which is under development. The ZIG segment contains information about various types of resources that can be scheduled. Resources included in a transaction using this segment are assumed to be controlled by a schedule on a schedule filler application. Resources described by this segment are general types of resources, such as equipment, which are identified by a simple identification code.

SEQ	LEN	DT	R/O	RP/#	TBL#	ELEMENT NAME
1	80	CE	C			RESOURCE ID
2	15	CE	R			RESOURCE TYPE
3	20	CQ				START DATE/TIME OFFSET
4	20	CQ				DURATION
6	10	ID	C			FILLER STATUS CODE

3.5.17.0 ZIG field definitions

3.5.17.1 RESOURCE ID (CE)

RESOURCE ID is a coded element made up of the following: <resource identifier> <text> <name of coding system> This field contains the ID number and name of the resource being requested or scheduled for an appointment. This field is used to identify a specific resource being requested, or a specific resource which has been scheduled for an appointment.

3.5.17.2 RESOURCE TYPE (CE)

RESOURCE TYPE is a coded element made up of the following:
<type identifier> <text> <name of coding system>

This field identifies the role of the resource requested/scheduled for this appointment.

3.5.17.3 START DATE/TIME OFFSET (CQ)

START DATE/TIME OFFSET is a composite quantity with units made up of the following:

<quantity> <units> This field contains the offset this resource is needed for the appointment, expressed in units of time relative to the scheduled start date/time. The first component contains the offset amount. An offset of zero (0), or an unvalued field indicates that the resource is required at the start date/time of the appointment. The units component contains a code describing the units of time used in expressing the quantity component.

A positive offset indicates that the resource is required after the appointment's start date/time. Specifying a negative offset indicates that the resource is required prior to the specified start date/time of the appointment.

3.5.17.4 DURATION (CQ)

DURATION is a composite quantity with units made up of the following:
<quantity> <units> This field contains the duration for which the resource is requested/scheduled for this appointment, if different from the overall duration of the requested/scheduled appointment. The first component contains the duration amount. The units component contains a code describing the units of time used in expressing the quantity component.

3.5.17.6 FILLER STATUS CODE (ID)

FILLER STATUS CODE is a code that describes the requested/scheduled status of the resource or activity, from the point of view of the filler application. This field is required for all transactions from the filler application.

When the **VISTA** Surgery system transmits to the AAIS or ancillary system, this field contains CONFIRMED for a scheduled case and PENDING for a request.

User Defined Table - FILLER STATUS CODES

Value	Description
PENDING	Pending schedule confirmation; resource not scheduled.
CONFIRMED	This resource has been scheduled and confirmed.

3.5.18 Segment: ZIL - Appointment Information -Location Resource

This segment is based upon the proposed HL7 Scheduling chapter, which is under development. The ZIL segment contains information about location resources (meeting rooms, operating rooms, examination rooms, or other locations) that can be scheduled. Resources included in a transaction using this segment are assumed to be controlled by a schedule on a schedule filler application. Location resources are identified with this specific segment because of the specific encoding of locations used by the HL7 specification.

SEQ	LEN	DT	R/O	RP/#	TBL#	ELEMENT NAME
1	80	CM	C			LOCATION RESOURCE ID
2	15	CE	R			LOCATION TYPE
3	20	CQ				START DATE/TIME OFFSET
4	20	CQ				DURATION
6	10	ID	C			FILLER STATUS CODE

3.5.18.0 ZIL field definitions

3.5.18.1 LOCATION RESOURCE ID (CM)

LOCATION RESOURCE ID is a composite element made up of the following: <facility id> <building> <department or nurse unit> <room> <bed> This field contains the coded identification of the specific location being requested or scheduled for an appointment.

When the VISTA Surgery system transmits to the AAIS or ancillary system, only the facility id and room components are utilized. The facility id is the 3-digit identifier from the VISTA INSTITUTION file (#4). The fourth component, room, is the operating room scheduled.

3.5.18.2 LOCATION TYPE (CE)

LOCATION TYPE is a coded element made up of the following: <type identifier> <text> <name of coding system>

This field identifies the role of the location requested/scheduled for this appointment.

When the VISTA Surgery system transmits to the AAIS or ancillary system, only the text component is utilized. The text component contains the words OPERATING ROOM or NON OR to identify the role of the LOCATION RESOURCE ID.

3.5.18.3 START DATE/TIME OFFSET (CQ)

START DATE/TIME OFFSET is a composite quantity with units made up of the following:

<quantity> <units> This field contains the offset this location is needed for the appointment, expressed in units of time relative to the scheduled start date/time. The first component contains the offset amount. An offset of zero (0), or an unvalued field indicates that the location is required at the start date/time of the appointment. The units component contains a code describing the units of time used in expressing the quantity component.

The *VISTA* Surgery system transmits a null value for this field.

3.5.18.4 DURATION (CQ)

DURATION is a composite quantity with units made up of the following:
<quantity> <units> This field contains the duration for which the location is requested/scheduled for this appointment. The first component contains the duration amount. The units component contains a code describing the units of time used in expressing the quantity component.

The *VISTA* Surgery system transmits a null value for this field.

3.5.18.6 FILLER STATUS CODE (ID)

FILLER STATUS CODE is a code that describes the requested/scheduled status of the location, from the point of view of the filler application. This field is required for all transactions from the filler application.

When the *VISTA* Surgery system transmits to the AAIS or ancillary system, the value of this field is affected by the SCHEDULE CLOSE TIME field (#13) in the VISTA SURGERY SITE PARAMETERS file (#133). The field contains PENDING for a request and all scheduled cases which are not passed the SCHEDULE CLOSE TIME. This field contains CONFIRMED for all other cases.

User Defined Table - FILLER STATUS CODES

Value	Description
PENDING	Pending schedule confirmation; resource not scheduled.
CONFIRMED	This resource has been scheduled and confirmed.

3.5.19 Segment: ZIP - Appointment Information -Personnel Resource

This segment is based upon the proposed HL7 Scheduling chapter, which is under development. The ZIP segment contains information about the personnel types that can be scheduled. Personnel included in a transaction using this segment are assumed to be controlled by a schedule on a schedule filler application. The types of personnel described on this segment are any healthcare provider in the institution controlled by a schedule (e.g., technicians, physicians, nurses, surgeons, anesthesiologists, or CRNAs).

SEQ	LEN	DT	R/O	RP/#	TBL#	ELEMENT NAME
1	80	CN	C			RESOURCE ID
2	15	CE	R			RESOURCE ROLE
6	10	ID	C			FILLER STATUS CODE

3.5.19.0 ZIP field definitions

3.5.19.1 RESOURCE ID (CN)

RESOURCE ID is a composite ID number and name made up of the following: <id number> <family name> <given name> <middle initial or name> <suffix> <prefix> <degree> <source table ID>

This field contains the ID number and name of the person being requested or scheduled for an appointment.

When the *VISTA* Surgery system transmits to the AAIS or ancillary system, the id number (social security number), uniquely identifies the resource person. The name component is from the Surgery fields SURGEON (#.14), FIRST ASST (#.15), SECOND ASST (#.16), ATTEND SURG (#.164), PRINC ANESTHETIST (#.31), PROVIDER (#123), ATTEND PROVIDER (#124) or ANESTHESIOLOGIST SUPVR (#.34). All components must match the *VISTA* NEW PERSON file (#200).

3.5.19.2 RESOURCE ROLE (CE)

RESOURCE ROLE is a coded element made up of: <role identifier> <text> <name of coding system> This field identifies the role of the personnel requested/scheduled for this appointment. In requests, if a specific person is not identified in the RESOURCE ID field, then this field identifies the type of person that should be scheduled by the filler application.

When the **VISTA** Surgery system transmits to the AAIS or ancillary system, the text component contains the role of the person identified in the RESOURCE ID. The text is SURGEON, 1ST ASST., 2ND ASST., ATT. SURGEON, PRIN. ANES., PROVIDER, ATT. PROVIDER, or ANES. SUPER. The coding system component is blank.

3.5.19.6 FILLER STATUS CODE (ID)

FILLER STATUS CODE is a code that describes the requested/scheduled status of the resource, from the point of view of the filler application. This field is required for all transactions from the filler application.

When the **VISTA** Surgery system transmits to the AAIS or ancillary system, the value of this field is affected by the SCHEDULE CLOSE TIME field (#13) in the VISTA SURGERY SITE PARAMETERS file (#133). The field contains PENDING for a request and all scheduled cases which are not passed the SCHEDULE CLOSE TIME. This field contains CONFIRMED for all other cases.

User Defined Table - FILLER STATUS CODES

Value	Description
PENDING	Pending schedule confirmation; resource not scheduled.
CONFIRMED	This resource has been scheduled and confirmed.

3.5.20 Segment: ZIS - Appointment Information - Service

This segment is based upon the proposed HL7 Scheduling chapter, which is under development. The ZIS segment contains information about various types of services that can be scheduled. Services included in a transaction using this segment are assumed to be controlled by a schedule on a schedule filler application.

SEQ	LEN	DT	R/O	RP/#	TBL#	ELEMENT NAME
1	200	CE	R			UNIVERSAL SERVICE IDENTIFIER
5	10	ID	C			FILLER STATUS CODE

3.5.20.0 ZIS field definitions

3.5.20.1 UNIVERSAL SERVICE IDENTIFIER (CE)

UNIVERSAL SERVICE IDENTIFIER is a coded element made up of the following: <identifier> <text> <name of coding system> This is the identifier code for the service to be scheduled. This field may contain a Universal Service Identifier describing the observation/test/battery/procedure or other activity that is to be performed during the requested appointment. This can be based on local and/or universal codes.

When the **VISTA** Surgery system transmits to the AAIS or ancillary system, the identifier component is the OTHER PROCEDURE CPT CODE field (#3 of Subfile #130.16). The text component is the short description from the CPT file (#81). The coding system component is C4.

3.5.20.5 FILLER STATUS CODE (ID)

FILLER STATUS CODE is a code that describes the requested/scheduled status of the resource or activity, from the point of view of the filler application. This field is required for all transactions from the filler application.

When the **VISTA** Surgery system transmits to the AAIS or ancillary system, the value transmitted is based upon the Surgery COMPLETED field (#2 of Subfile #130.16).

User Defined Table - FILLER STATUS CODES

Value	Description
PENDING	Pending schedule confirmation; resource not scheduled.
CONFIRMED	This resource has been scheduled and confirmed.

3.5.21

Segment: ZI9 - ICD9 Identification

This segment is used to identify all of the ICD9 codes with there corresponding short name.

SEQ	LEN	DT	R/O	RP/#	TBL#	ELEMENT NAME
1	60	CE				ZI9 - PRIMARY KEY VALUE
2	5	ST	R			ICD9 CODE (#80/.01)
3	30	ST				DIAGNOSIS (#80/3)
4	1	ID				ACTIVE/INACTIVE (#80/100)

3.5.21.0 ZI9 - field definition

3.5.21.1 ZI9 - PRIMARY KEY VALUE (CE)

This field contains the primary key value from the MFE-4 - PRIMARY KEY VALUE field.

3.5.21.2 ICD9 CODE (ST)

This field contains the identification or ICD9 code, which comes from the *VISTA* ICD9 file (#80).

3.5.21.3 DIAGNOSIS (ST)

This field contains the actual diagnosis name specified by the standard and identified from with in the *VISTA* ICD9 file (#80).

3.5.21.4 ACTIVE/INACTIVE (ID)

This field contains the current status of the ICD9 code identified in the primary key.

Table 183 - ACTIVE/INACTIVE

Value	Description
A	Active code
I	Inactive code

3.5.22 Segment: ZMN - Monitor Identification

This segment is used to identify all of the monitors used by the *VISTA* Surgery package.

SEQ	LEN	DT	R/O	RP/#	TBL#	ELEMENT NAME
1	60	CE	ZMN -			PRIMARY KEY VALUE (#133.4/.01)
2	1	ID				INACTIVE FLAG (#133.4/10)

3.5.22.0 ZMN - field definition

3.5.22.1 ZMN - PRIMARY KEY VALUE (CE)

This field contains the primary key value from the MFE-4 - PRIMARY KEY VALUE field.

3.5.22.2 ACTIVE/INACTIVE (ID)

This field contains the current status of the monitor identified in the primary key.

Table 183 - ACTIVE/INACTIVE

Value	Description
A	Active code
I	Inactive code

3.5.23 Segment: ZRF - Replacement Fluid Identification

This segment is used to identify all of replacement fluids used by the *VISTA* Surgery package.

SEQ	LEN	DT	R/O	RP/#	TBL#	ELEMENT NAME
1	60	CE				ZRF - PRIMARY KEY VALUE (#133.7/.01)
2	1	ID				ACTIVE/INACTIVE (#133.7/10)

3.5.23.0 ZRF - field definitions

3.5.23.1 ZRF - PRIMARY KEY VALUE (CE)

This field contains the primary key value from the MFE-4 - PRIMARY KEY VALUE field.

3.5.23.2 ACTIVE/INACTIVE (ID)

This field contains the current status of the replacement fluid identified in the primary key.

Table 183 - ACTIVE/INACTIVE

Value	Description
A	Active code
I	Inactive code

3.5.24 Segment: ZRX - Medication Identification

This segment is used to identify all of medications used by the *VISTA* Surgery package.

SEQ	LEN	DT	R/O	RP/#	TBL#	ELEMENT NAME
1	60	CE				ZRX - PRIMARY KEY VALUE (#50/.01)
2	26	CM				INACTIVE DATE (#50/100)

3.5.24.0 ZRF - field definitions

3.5.24.1 ZRX - PRIMARY KEY VALUE (CE)

This field contains the primary key value from the MFE-4 - PRIMARY KEY VALUE field.

3.5.24.2 INACTIVE DATE (CM)

Components: <date (TS)><institution name (CE)>

This field identifies the date the medication became inactive for an institution. Note that the CE component of this field uses the subcomponent character for its delimiters.

4. TRANSACTION SPECIFICATIONS

4.1 General

The interface between **VISTA** and an automated anesthesia information system (AAIS) or ancillary system is a two-phased project. Phase I of this specification addresses only the data that is readily available from the **VISTA** Surgery application. It is recognized that an AAIS or ancillary system can utilize laboratory, pharmacy, radiology and other **VISTA** data. The specification will be expanded in Phase II to address those needs.

The flow of transactions between the **VISTA** Surgery system and the automated anesthesia information system (AAIS) or ancillary system occurs in the following ways.

The **VISTA** Surgery system notifies the AAIS or ancillary system when a surgical case is requested, scheduled, cancelled, deleted, aborted, not complete (in progress) or completed. The receiving system responds with an acknowledgment.

The AAIS or ancillary system can query the **VISTA** Surgery system for preoperative surgical data for one patient/date or for all cases for a date. The **VISTA** Surgery system responds with the appropriate information.

At the conclusion or during the operative procedure, the AAIS or ancillary system sends case-related data back to the **VISTA** Surgery system, and the **VISTA** Surgery system responds with an acknowledgment and visa-versa.

In order to synchronize common reference files on both systems, the **VISTA** Surgery package has created master file updates for several files and sets of codes.

4.2 Specific Transactions

A. Surgery Trigger Events

The following are surgery trigger events: a surgical case is requested, scheduled, cancelled, deleted, aborted, not complete (in progress) or completed. A trigger event causes the **VISTA** Surgery system to send an unsolicited update to the AAIS or ancillary system. This message is in the form of a scheduled information unsolicited (ZIU) message. The ZIU message consists of the following segments.

ZIU	Schedule Information Unsolicited Message
MSH	Message Header
{ZCH	Schedule Appointment Information
PID	Patient Identification
{AL1}	Allergy Information
{OBX}	Observation Segment
{DG1}	Diagnosis Information
{ZIS}	Appointment Information - Service
{ZIG}	Appointment Information - General Resource
{ZIL}	Appointment Information - Location Resource
{ZIP}	Appointment Information - Personnel Resource
}	

EXAMPLE #1: S12 - Notification of New Appointment Booking - Requested

```
MSH^~|\&^SR SURGERY^521^SR AAIS^521^19941208092934^^ZIU^2941208. 092934^P^2.1
ZCH^^1887^^S12~(REQUESTED)~L^^^~~~2941209^^^^^000999991~SURSURGEON~ONE^^^^^
PID^0001^^71~8~M10^1876^SURPATIENT~ONE^^19580903^M^^^87 ANYPLACE
STREET~~ANYTOWN~AL~55555~USA^^555-5555^^^S^^^000381876 OBX^1^CE^~PATIENT
CLASS ~L^^~INPATIENT~L^^^^^^S OBX^2^CE^~SURGICAL SPECIALTY~^^~CARDIAC
SURGERY~99VA137.45^^ ^^^S^^^^^
OBX^3^CE^1010.3~Height^^226.06^cm^^^^^S^^^199412080700^^000289123~SURNURSE~ON
E OBX^4^CE^1010.1~Body Weight^^70.45^kg^^^^^S^^^199412080700^
^000289123~SURNURSE~ONE
OBX^5^CE^1000~Temperature^^36.94^cel^^^^^S^^^199412080700^^000289123~SURNURSE
~ONE OBX^6^CE^1006.2~HR^^60^min^^^^^S^^^199412080700^^000289123~SURNURSE~ONE
ZIP^000234567~SURSURGEON~TWO^~SURGEON~^^^^^PENDING
```

EXAMPLE #2: S13 - Notification of Appointment Rescheduling - Scheduled

```
MSH^~|\&^SR SURGERY^521^SR AAIS^521^19941208095332^^ZIU^2941208. 095332^P^2.1
ZCH^^1887^^S13~(SCHEDULED)~L^47480~INCISION OF GALLBLADDER
~C4^165~min^~~~2941209^^^^^000999991~SURSURGEON~ONE^^^^^
PID^0001^^71~8~M10^1876^SURPATIENT~ONE^^19580903^M^^^87 ANYPLACE
STREET~~ANYTOWN~AL~55555~USA^^555-5555^^^S^^^000381876 OBX^1^CE^~PATIENT
CLASS ~L^^~INPATIENT~L^^^^^^S OBX^2^CE^~SURGICAL SPECIALTY~^^~CARDIAC
SURGERY~99VA137.45^^ ^^^S^^^^^
OBX^3^CE^1010.3~Height^^226.06^cm^^^^^S^^^199412080700^^000289123~SURNURSE~ON
E OBX^4^CE^1010.1~Body Weight^^70.45^kg^^^^^S^^^199412080700^
^000289123~SURNURSE~ONE
OBX^5^CE^1000~Temperature^^36.94^cel^^^^^S^^^199412080700^^000289123~
SURNURSE~ONE
OBX^6^CE^1006.2~HR^^60^min^^^^^S^^^199412080700^^000289123~SURNURSE~ONE
DG1^0001^I9^574.01^CHOLELITH/AC GB INF~OBST^^P AL1^0001^FA^~DAIRY PRODUCTS
ZIP^000234567~SURSURGEON~TWO^~SURGEON~^^^^^PENDING
ZIP^000345678~SURSURGEON~THREE^~1ST ASST.~ ^^^PENDING
ZIP^000567009~SURSURGEON~FIVE^~ATT. SURGEON~^^^^^PENDING
ZIP^000456789~SURANESTHETIST~ONE^~PRIN. ANES.~ ^^^PENDING
ZIP^000122344~SURANESTHETIST~TWO^~ANES. SUPER.~ ^^^PENDING
```

EXAMPLE #3: S14 - Notification of Appointment Modification - Requested

MSH^~|\&^SR SURGERY^521^SR AAIS^521^19941208093730^^ZIU^2941208. 09373^P^2.1
ZCH^^1887^^S14~(REQUESTED)~L^47480~INCISION OF GALLBLADDER
~C4^165~min^~~~2941209^^^^^000999991~SURSURGEON~ONE^^^^^
PID^0001^^71~8~M10^1876^SURPATIENT~ONE^^19580903^M^^^87 ANYPLACE
STREET~~ANYTOWN~AL~55555~USA^^555-5555^^^S^^^000381876 OBX^1^CE^~PATIENT
CLASS ~L^^~INPATIENT~L^^^^^^S OBX^2^CE^~SURGICAL SPECIALTY~^^~CARDIAC
SURGERY~99VA137.45^^ ^^^S^^^^^
OBX^3^CE^1010.3~Height^^226.06^cm^^^^^S^^^199412080700^^000289123~SURNURSE~ON
E OBX^4^CE^1010.1~Body Weight^^70.45^kg^^^^^S^^^199412080700^
^000289123~SURNURSE~ONE
OBX^5^CE^1000~Temperature^^36.94^cel^^^^^S^^^199412080700^^000289123~SURNURSE
~ONE OBX^6^CE^1006.2~HR^^60^min^^^^^S^^^199412080700^^000289123~SURNURSE~ONE
DG1^0001^I9^574.01^CHOLELITH/AC GB INF~OBST^^P AL1^0001^FA^~DAIRY PRODUCTS
ZIP^000234567~SURSURGEON~TWO^~SURGEON~^^^^^PENDING
ZIP^000345678~SURSURGEON~THREE^~1ST ASST.~ ^^^PENDING
ZIP^000567009~SURSURGEON~FIVE^~ATT. SURGEON~^^^^^PENDING

EXAMPLE #4: S14 - Notification of Appointment Modification - Scheduled

MSH^~|\&^SR SURGERY^521^SR AAIS^521^19941208094653^^ZIU^2941208. 094653^P^2.1
ZCH^^1887^^S14~(SCHEDULED)~L^47480~INCISION OF GALLBLADDER~C4
^165~min^~~~199412091300~199412091545~1^^^^^000999991~SURSURGEON~ONE^^^^^
^ PID^0001^^71~8~M10^1876^SURPATIENT~ONE^^19580903^M^^^87 ANYPLACE
STREET~~ANYTOWN~AL~55555~USA^^555-5555^^^S^^^000381876 OBX^1^CE^~PATIENT
CLASS ~L^^~INPATIENT~L^^^^^^S OBX^2^CE^~SURGICAL SPECIALTY~^^~CARDIAC
SURGERY~99VA137.45^^ ^^^S^^^^^
OBX^3^CE^1010.3~Height^^226.06^cm^^^^^S^^^199412080700^^000289123~SURNURSE~ON
E OBX^4^CE^1010.1~Body Weight^^70.45^kg^^^^^S^^^199412080700^
^000289123~SURNURSE~ONE
OBX^5^CE^1000~Temperature^^36.94^cel^^^^^S^^^199412080700^^000289123~SURNURSE
~ONE OBX^6^CE^1006.2~HR^^60^min^^^^^S^^^199412080700^^000289123~SURNURSE~ONE
DG1^0001^I9^574.01^CHOLELITH/AC GB INF~OBST^^P AL1^0001^FA^~DAIRY PRODUCTS
ZIS^11100~BIOPSY OF SKIN LESION~C4^^^^^ CONFIRMED
ZIG^5~ECG~99VA133.4^~MONITOR~^^^^^CONFIRMED
ZIP^000234567~SURSURGEON~TWO^~SURGEON~^^^^^CONFIRMED
ZIP^000345678~SURSURGEON~THREE^~1ST ASST.~ ^^^CONFIRMED
ZIP^000567009~SURSURGEON~FIVE^~ATT. SURGEON~^^^^^CONFIRMED
ZIP^000456789~SURANESTHETIST~ONE^~PRIN. ANES.~ ^^^CONFIRMED
ZIP^000122344~SURANESTHETIST~TWO^~ANES. SUPER.~ ^^^CONFIRMED
ZIL^521~OR1^~OPERATING ROOM^^^^^CONFIRMED

EXAMPLE #5: S15 - Notification of Appointment Cancellation

MSH^~|\&^SR SURGERY^521^SR AAIS^521^19941208095316^^ZIU^2941208. 095316^P^2.1
ZCH^^1887^^S15~(CANCELLED)~L^47480~INCISION OF GALLBLADDER~C4
^165~min^~~~2941208^^^^^000999991~SURSURGEON~ONE^^^^^

PID^0001^^71~8~M10^1876^SURPATIENT~ONE^^19580903^M^^87 ANYPLACE
STREET~~ANYTOWN~AL~55555~USA^^555-5555^^S^^000381876 OBX^1^CE^~PATIENT
CLASS ~L^^~INPATIENT~L^^^^^^S OBX^2^CE^~CANCEL REASON~L^^~BLOOD NOT
AVAILABLE~L^^^^^ ^S^^199412080936^^000289123~SURNURSE~ONE OBX^3^CE^~SURGICAL
SPECIALTY~^^~CARDIAC SURGERY~99VA137.45^^ ^^^S^^^^^
OBX^4^CE^1010.3~Height^^226.06^cm^^^^^S^^199412080700^^000289123~SURNURSE~ON
E OBX^5^CE^1010.1~Body Weight^^70.45^kg^^^^^S^^199412080700^
^000289123~SURNURSE~ONE
OBX^6^CE^1000~Temperature^^36.94^cel^^^^^S^^199412080700^^000289123~SURNURSE
~ONE OBX^7^CE^1006.2~HR^^60^min^^^^^S^^199412080700^^000289123~SURNURSE~ONE
DG1^0001^I9^574.01^CHOLELITH/AC GB INF~OBST^^P AL1^0001^FA^~DAIRY PRODUCTS
ZIP^000234567~SURSURGEON~TWO^~SURGEON~^^^^PENDING
ZIP^000345678~SURSURGEON~THREE^~1ST ASST.~ ^^^PENDING
ZIP^000567009~SURSURGEON~FIVE^~ATT. SURGEON~^^^^PENDING
ZIP^000456789~SURANESTHETIST~ONE^~PRIN. ANES.~ ^^^PENDING
ZIP^000122344~SURANESTHETIST~TWO^~ANES. SUPER.~ ^^^PENDING

EXAMPLE #6: S17 - Notification of Appointment Deletion

MSH^~|\&^SR SURGERY^521^SR AAIS^521^19941208133341^^ZIU^2941208. 133341^P^2.1
ZCH^^1889^^S17~(DELETED)~L^^0~min^~~~2941208^^^^^^
PID^0001^^71~8~M10^1876^SURPATIENT~ONE^^19580903^M^^87 ANYPLACE
STREET~~ANYTOWN~AL~55555~USA^^555-5555^^S^^000381876 OBX^1^CE^~PATIENT
CLASS ~L^^~INPATIENT~L^^^^^^S OBX^2^CE^~SURGICAL SPECIALTY~^^~CARDIAC
SURGERY~99VA137.45^^ ^^^S^^^^^
OBX^3^CE^1010.3~Height^^226.06^cm^^^^^S^^199412080700^^000289123~SURNURSE~ON
E OBX^4^CE^1010.1~Body Weight^^70.45^kg^^^^^S^^199412080700^
^000289123~SURNURSE~ONE
OBX^5^CE^1000~Temperature^^36.94^cel^^^^^S^^199412080700^^000289123~SURNURSE
~ONE OBX^6^CE^1006.2~HR^^60^min^^^^^S^^199412080700^^000289123~SURNURSE~ONE
DG1^0001^I9^540.9^ACUTE APPENDICITIS NOS^^P AL1^0001^FA^~DAIRY PRODUCTS
ZIP^000567009~SURSURGEON~FIVE^~SURGEON~^^^^CONFIRMED
ZIP^000345678~SURSURGEON~THREE^~1ST ASST.~^^^^CONFIRMED
ZIP^000233455~SURSURGEON~SIX^~2ND ASST.~^^^^CONFIRMED
ZIP^000234567~SURSURGEON~TWO^~ATT. SURGEON~^^^^CONFIRMED

B. Message Acknowledgment

Upon receipt of the scheduled information unsolicited (ZIU) message, the AAIS or ancillary system responds with a general acknowledgment (ACK) message. The ACK message consists of the following segments.

ACK	General Acknowledgment Message
MSH	Message Header
MSA	Message Acknowledgment

EXAMPLE:

```
MSH^~|\&^SR AAIS^521^SR SURGERY^521^19941208133422^^ACK^19941208
.133422^P^2.1 MSA^AA^2941208.133341^
```

C. Query for Pre-operative Surgical Data

The AAIS or ancillary system requests pre-operative surgical data for a single specified case/date or for all cases for a specified date. This request is in the form of a query (QRY) message. The QRY message consists of the following segments.

QRY	Query Message
MSH	Message Header
QRD	Query Definition
QRF	Query Filter

EXAMPLE #1: All Scheduled Cases for Selected Date

```
MSH^~|\&^SR AAIS^521^SR SURGERY^521^19941012140634^^QRY^2941012.
140634^P^2.1
QRD^19941012140634^R^I^0000^^^1~RD^ALL ^OTH^ALL^^
QRF^SR SURGERY^19940930^19940930^^^^^^
```

EXAMPLE #2: Selected Patient for Selected Date

```
MSH^~|\&^SR AAIS^521^SR SURGERY^521^19941012140634^^QRY^2941012. 140634^P^2.1
QRD^19941012140634^R^I^0000^^^1~RD^SURPATIENT~ONE^OTH^000381876^^ QRF^SR
SURGERY^19940930^19940930^^^^^^
```

D. Respond with Requested Query Information

The *VISTA* Surgery system responds to the query with a scheduled activity transaction (ZSQ) message containing the requested information. The ZSQ message consists of the following segments.

ZSQ	Scheduled Activity Transaction Message
MSH	Message Header
MSA	Message Acknowledgment
[ERR]	Error
{ZCH	Schedule Appointment Information
PID	Patient Identification
[AL1]	Allergy Information
[OBX]	Observation Segment
[DG1]	Diagnosis Information
{ZIS}	Appointment Information - Service
{ZIG}	Appointment Information - General Resource
{ZIP}	Appointment Information - Personnel Resource
{ZIL}	Appointment Information - Location Resource
}	

EXAMPLE:

```
MSH^~|\&^SR SURGERY^521^SR AAIS^521^19941012141231^^ZSQ^2941012. 141231^P^2.1
MSA^AA^2941012.140634^ ZCH^^163^^^27130~TOTAL HIP
REPLACEMENT~C4^0~min^~~~199409290800
~199409280920~~~~^000999991~SURSURGEON~ONE^^^^^
PID^0001^^71~8~M10^1876^SURPATIENT~ONE^^19580903^M^^^87 ANYPLACE
STREET~~ANYTOWN~AL~55555~USA^^555-5555^^S^^^000381876 OBX^1^CE^~SURGICAL
SPECIALTY~^^~ORTHOPEDIC~99VA723^^^^^^S^ ^^ OBX^2^CE^~ANES SUPERVISE
CODE~L^^2^^^^^^S^^^^^ OBX^3^CE^~PATIENT CLASS ~L^^~INPATIENT~L^^^^^^S
OBX^4^TX^1002~BP~AS4^^70/110^^^^^^S^^^199409270900^^000289123~SURNURSE~ONE
OBX^5^CE^1010.3~Height~AS4^^100.08^cm^^^^^^S^^^199409270900^^000289123~REED~DA
N NY OBX^6^CE^1010.1~Body Weight~AS4^^93.00^kg^^^^^^S^^^199409270900^^
000289123~SURNURSE~ONE
OBX^7^CE^1000~Temperature~AS4^^28.39^cel^^^^^^S^^^199409270900^^000289123~REED
~ DANNY
OBX^8^CE^1006.2~HR~AS4^^60^min^^^^^^S^^^199409270900^^000289123~SURNURSE~ONE
DG1^0001^I9^100.0^LEPTOSPIROS ICTEROHEM^^P AL1^0001^FA^~DAIRY PRODUCTS
ZIS^11000~SURGICAL CLEANSING OF SKIN~C4^^^^^CONFIRMED ZIS^11100~BIOPSY OF SKIN
LESION~C4^^^^^CONFIRMED
ZIG^5~ECG~99VA133.4^~MONITOR~^^^^^CONFIRMED
ZIP^000234567~SURSURGEON~TWO^~SURGEON~^^^^^CONFIRMED
ZIP^000345678~SURSURGEON~THREE ^~1ST ASST.^~^^^^^CONFIRMED
ZIP^000567009~SURSURGEON~FIVE ^~2ND ASST.^~^^^^^CONFIRMED
ZIP^000999991~SURSURGEON~ONE^~ATT. SURGEON~^^^^^CONFIRMED
ZIP^000456789~SURANESTHETIST~ONE ^~PRIN. ANES.^~^^^^^CONFIRMED
ZIL^BIRMINGHAM, AL.~~~OR1^~OPERATING ROOM^^^^^CONFIRMED
```


.
.
.
ZCH^""^1992^""^~(NOT COMPLETE)~L^30620~INTRANASAL
RECONSTRUCTION~C4^~19950608~^
PID^1^^71~8~M10^1876^SURPATIENT~ONE^""^19580903^M^^87 ANYPLACE
STREET~ANYTOWN~AL~55555^^555-5555^^^S^^^000381876 OBX^1^CE^~MEDICAL
SPECIALTY~^^~ORTHOPEDIC~99VA723^^^S OBX^2^CE^~ANES SUPERVISE
CODE~L^^2^^^S^^^ OBX^3^CE^~PATIENT CLASS~^^~OUTPATIENT~L^^^S^^^
OBX^4^CE^1010.3~Height^^226.06^cm^^^S^^^199505020700^^000289123~SURNURSE~ON
E OBX^5^CE^1010.1~Body Weight^^70.45^kg^^^S^^^199505020700^
^000289123~SURNURSE~ONE
OBX^6^CE^1000~Temperature^^36.94^cel^^^S^^^199505020700^^000289123~SURNURSE
~ONE OBX^7^CE^1006.2~HR^^60^min^^^S^^^199505020700^^000289123~SURNURSE~ONE
DG1^0001^I9^802.1^NASAL BONE FX-OPEN^^P AL1^0001^FA^~DAIRY PRODUCTS
ZIS^00160~ANESTH, NOSE, SINUS SURGERY~C4^^^PENDING
ZIP^000456801~SURPROVIDER~ONE^~PROVIDER~^
ZIP^000289123~SURNURSE~ONE^~ATTEND PROVIDER~^^^CONFIRMED
ZIP^~SURANESTHETIST~TWO^~PRIN. ANES.~ ^^CONFIRMED
ZIP^000456789~SURANESTHETIST~ONE^~ANES. SUPER.~^ ^^CONFIRMED
ZIL^521~HUFF CLINIC^~NON OR^^CONFIRMED
...

Segments ZCH through ZIL repeat for every case scheduled on the requested date.

E. Message Acknowledgment

Upon receipt of the scheduled activity transaction (ZSQ) message, the message response process is complete.

F. Unsolicited Update at Procedure Conclusion

At the conclusion of the operative procedure, the AAIS or ancillary system sends an unsolicited update to the VISTA Surgery system in the form of an observational results unsolicited (ORU) message. The ORU message consists of the following segments.

ORU	Observational Results Unsolicited Message
MSH	Message Header
{ [PID]	Patient Identification
{OBR	Observations Report ID
{[NTE]}	Anesthesia Notes or Comments
{[OBX]}	Observation Segment
}	
}	

EXAMPLE:

```
MSH^~|\&^SR AAIS^521^SR SURGERY^521^19950120130126^^ORU^2950120
.13^P^2.1
PID^0001^^71~8~M10^1876^SURPATIENT~ONE^^19580903^M^^^87 ANYPLACE
STREET~~ANYTOWN~AL~55555~USA^^555-5555^^^S^^^000381876
OBR^0001^^1935^5000.7~OPERATION~AS4^^^1995011107^199501110823
OBX^1^TS^~NURSE PRESENT TIME~L^^199501110658^^^^^^F
OBX^2^CN^~ASSISTANT ANESTHETIST~99VA200^^000456789~ SURANESTHETIST
~ONE^^^^^^F
OBX^3^NM^~BLOOD LOSS~L^^10^ml^^^^^^F
OBX^4^CE^1000~ANESTHESIA TEMP~AS4^^10^cel^^^^^^F
OBX^5^CE^~ASA CLASS~L^^~1E-NO DISTURB-EMERG~L^^^^^^F
OBX^6^TS^~TIME PATIENT IN HOLDING AREA~L^^199501110615^^^^^^F
OBX^7^TS^~ANESTHESIA AVAILABLE TIME~L^^199501110659^^^^^^F
OBX^8^TS^~SURGEON PRESENT TIME~L^^199501110708^^^^^^F
OBX^9^TS^~ANESTHESIA CARE START TIME~L^^199501110659^^^^^^F
OBX^10^TS^~ANESTHESIA CARE END TIME~L^^199501110710^^^^^^F
OBX^11^TS^~INDUCTION COMPLETE~L^^199501110701^^^^^^F
OBX^12^TS^~TIME PATIENT IN OR~L^^1995011107^^^^^^F
OBX^13^TS^~TIME PATIENT OUT OR~L^^199501110830^^^^^^F
OBX^14^CN^~PRIN. ANES.~99VA200^^000289123~SURNURSE~ONE^^^^^^F
OBX^15^CN^~RELIEF ANESTHETIST~99VA200^^000667889~SURANESTHETIST~THREE
LAS A^^^^^^F
OBX^16^CN^~ANES. SUPER.~99VA200^^000122344~SURANESTHETIST~TWO^^^^^^F
OBX^17^NM^~TOTAL URINE OUTPUT~L^^3^ml^^^^^^F
OBX^18^NM^~OR SETUP TIME~L^^150^min^^^^^^F
```

OBX^19^NM^1006.2~HR~AS4^^100^^^^^^F
 OBX^20^NM^1007~RR~AS4^^80^min^^^^^^F
 OBX^21^TX^1002~BP~AS4^^80/120^^^^^^F
 OBX^22^CE^~CASE SCHEDULE TYPE~L^^~ELECTIVE~L^^^^^^F
 OBX^23^CE^~ATTENDING CODE~L^^~0. STAFF ALONE~L^^^^^^F
 OBR^0002^^1935^~TOURNIQUET~L^^^199501110723^199501110726
 OBX^1^CE^~SITE TOURNIQUET APPLIED~L~~RIGHT UPPER LEG~L^
 ^100^m(hg)^^^^^^F^^^^^^000999991~SURSURGEON~ONE
 OBR^0003^^1935^~REPLACEMENT FLUID~L
 OBX^1^CE^~REPLACEMENT FLUID USED~L~~PLATELETS~99VA133.7^ ^200^ml^^^^^^F
 OBR^0004^^1935^~MONITOR~L~~ECG~99VA133.4^^^199501110700^199501110722
 OBX^1^CE^~MONITOR APPLIED BY~L^^000999991~SURSURGEON~ONE ^^^^^^F
 OBR^5^^1935^~MEDICATION~L~~FLUOROURACIL 5% TOP.SOL. ~99VA50^^^
 199501110723^^^^^^000999991~SURSURGEON~ONE
 OBX^1^TX^~MEDICATION USED~L^^10^^^^^^F^^^^^^000999991~ SURSURGEON~ONE
 OBX^2^CE^~MEDICATION ROUTE~L^^~INTRAVENOUS~L^^^^^^F
 OBR^6^^1935^5000.8~ANESTHESIA~AS4~~GENERAL~L NTE^1^P^The first line of
 anesthesia comments up to 80 characters long NTE^2^P^and the start of the
 second line of anesthesia comments.
 OBX^1^CE^~PRINCIPAL ANES TECHNIQUE (Y/N)~L^^~YES~L^^^^^^F
 OBX^2^CE^~EPIDURAL METHOD~L^^~HANGING DROP~L^^^^^^F
 OBX^3^CE^~ANESTHESIA AGENT~L~~ENFLURANE 125ML~99VA50^^25^ml ^^^^^^F
 OBX^4^CN^~EXTUBATED BY~99VA200^^151234567~ SURSURGEON~ONE ^^^^^^F
 OBX^5^CE^~PATIENT STATUS~L^^~SEDATED~L^^^^^^F
 OBX^6^CE^~ANESTHESIA ROUTE~L^^~ORAL~L^ ^ ^ ^ ^ ^F
 OBX^7^CE^~ANESTHESIA APPROACH~L^^~RAPID SEQUENCE~L^^^^^^F
 OBX^8^CE^~LARYNGOSCOPE TYPE~L^^~MILLER~L^^^^^^F
 OBX^9^NM^~LARYNGOSCOPE SIZE~L^^30^^^^^^F
 OBX^10^CE^~TUBE TYPE~L^^~PVC LOW PRESSURE~L^^^^^^F
 OBX^11^NM^~TUBE SIZE~L^^40^^^^^^F
 OBX^12^NM^~END VENT TV~L^^1000^^^^^^F
 OBX^13^NM^~END VENT RATE~L^^900^^^^^^F
 OBX^14^CE^~EXTUBATED IN~L^^~OR~L^^^^^^F
 OBX^15^CE^~BARICITY~L^^~HYPERBARIC~L^^^^^^F
 OBX^16^CE^~ADMINISTRATION METHOD~L^^~BOLUS~L^^^^^^F
 OBX^17^NM^~TEST DOSE~L~~GENTAMICIN~99VA50^^20^^^^^^F

G. Message Acknowledgment

Upon receipt of the unsolicited update, the *VISTA* Surgery system responds with a general acknowledgment (ACK) message. The ACK message consists of the following segments.

ACK	General Acknowledgment Message
MSH	Message Header
MSA	Message Acknowledgment

EXAMPLE:

```
MSH^~|\&^SR SURGERY^521^SR AAIS^521^19950310145754^^ACK^2950310.145754^P^2.1
MSA^AA^2950120.13^
```

H. Synchronize Reference Files

The *VISTA* Surgery system will send Master File Update messages to initialize and update the AAIS. The MFN message consists of the following segments.

MFN	Master File Notification Message
MFN	<u>Master File Notification</u>
MSH	Message Header
MFI	Master File Identification
{MFE	Master File Entry
[Z..] }	Data for the entry identified in MFE (STF,ZI9,ZRX,ZMN,ZRF)

EXAMPLE:

```
MSH^~|\&^SR SURGERY^521^SR AAIS^521^19950523083809^^MFN^2950523.083809^D^2.1
MFI^~MONITOR~99VA133.4^^REP^^^AL MFE^MAD^1^19950523^~AUSCULTATORY NIBP~
ZMN^~AUSCULTATORY NIBP~^0 MFE^MAD^2^19950523^~CHEST STETHOSCOPE~ ZMN^~CHEST
STETHOSCOPE~^0 MFE^MAD^3^19950523^~DOPPLER NIBP~
```

.
.
.

```
MFE^MAD^27^19950523^~MYOCARDIAL
PH~ ZMN^~MYOCARDIAL PH~^0
MFE^MAD^28^19950523^~ARP~
ZMN^~ARP~^0
```

I. Message Acknowledgment of Master File Update

Upon receipt of a Master File update, the AAIS or ancillary system should respond with a Master File Application Acknowledgment (MFK) message. The MFK message consists of the following segments.

MFK	Master File Application Acknowledgement
MSH	Message Header
MSA	Acknowledgement
[ERR]	Error
MFI	Master File Identification
{ [MFA] }	Master File ACK segment

EXAMPLE:

```
MSH^~|\&^SR AAIS^521^SR SURGERY^521^19950516084643^^MFK^2950516.084643^D^2.1
MSA^AA^2950516.084643
MFI^~MONITOR ~99VA133.4^^REP^^^AL
MFA^MAD^^^S^~AUSCULTATORY NIBP~
MFA^MAD^^^S^~CHEST STETHOSCOPE~
MFA^MAD^^^S^~DOPPLER NIBP~
.
.
.
MFA^MAD^^^S^~MYOCARDIAL PH~
MFA^MAD^^^S^~ARP~
```


APPENDIX A: DATA SOURCES

VISTA Surgery to AAIS and Ancillary Systems

APPENDIX A: DATA SOURCES Data	Segment/Sequence #	VISTA Mapping
Demographic Data:		
Patient ID	PID-3	SURGERY file (#130), .01 field: PATIENT
Patient SSN	PID-19	VAFHLPID call
Alternate Patient ID	PID-4	VAFHLPID call
Patient Name (L, F, M)	PID-5	VAFHLPID call
Mother's Maiden Name	PID-6	VAFHLPID call
Sex	PID-8	VAFHLPID call
Date of Birth	PID-7	VAFHLPID call
Race	PID-10	VAFHLPID call
Patient Address	PID-11	VAFHLPID call
Home Phone Number	PID-13	VAFHLPID call
Marital Status	PID-16	VAFHLPID call
Religion	PID-17	VAFHLPID call
Surgery Case Number	ZCH-2	SURGERY file (#130), IEN
Operating Room	ZIL-1 and 2	Surgery field: OPERATING ROOM (#.09)
Hospital Station Number	MSH-4 and 6	VISTA INSTITUTION file (#4) entry

VISTA Surgery to AAIS and Ancillary Systems

Data	Segment/Sequence #	VISTA Mapping
Scheduling Information:		
Allergies	AL1-2 and 3	GMRADPT call
Latest Preoperative Blood Pressure, Time Stamped	OBX-3, 5, 6 and 14	GMRVUTL call
Latest Preoperative Pulse Rate, Time Stamped	OBX-3, 5, 6 and 14	GMRVUTL call
Latest Preoperative Temperature, Time Stamped	OBX-3, 5, 6 and 14	GMRVUTL call
Preoperative Weight	OBX-3, 5, 6 and 14	GMRVUTL call
Height	OBX-3, 5, 6 and 14	GMRVUTL call
Principal Diagnosis	DG1-3 and 6	Surgery field: PRIN DIAGNOSIS CODE (#66)
Other Preoperative Diagnosis	DG1-3 and 6	Surgery field: OTHER PREOP DIAGNOSIS (#.01 of Subfile #130.17)
ICD9 Diagnosis Description	DG1-4	Surgery field: ICD DIAGNOSIS CODE (#3 of Subfile #130.17)
Scheduled Procedure	ZCH-5	Surgery field: PRINCIPAL PROCEDURE CODE (#27)
Other Procedures	ZIS-1	Surgery field: OTHER PROCEDURE CODE (#3 of Subfile #130.16) and OTHER PROCEDURE (#.01 of Subfile #130.16)
Date of Operation	ZCH-7	Surgery field: SCHEDULED START TIME (#10), SCHEDULED END TIME (#11)

VISTA Surgery to AAIS and Ancillary Systems

Data	Segment/Sequence #	VISTA Mapping
Scheduling Information:		
Surgeon	ZIP-1 and 2	Surgery field: SURGEON (#.14), FIRST ASST (#.15), SECOND ASST (#.16), ATTEND SURG (#.164)
Medical Specialty	OBX-5	Surgery field: MEDICAL SPECIALTY (#125)
Surgical Specialty	OBX-5	Surgery field: SURGERY SPECIALTY (#.04)
Number of Post Graduate Years for the Primary Surgeon	OBX-5	Surgery field: PGY OF PRIMARY SURGEON (#214)
Anesthesiologist Supervise code	OBX-5	Surgery field: ANES SUPERVISE CODE (#.345)
Patient Class	OBX-5	Surgery field: IN/OUT- PATIENT STATUS (#.011)
Cancel Reason	OBX-5	Surgery field: CANCEL REASON (#18)
Cancel Date	OBX-16	Surgery field: CANCEL DATE (#17)
Anesthesia Personnel	ZIP-1 and 2	Surgery field: PRINC ANESTHETIST (#.31) and ANESTHESIOLOGIST SUPVR (#.34)

Bidirectional Information

Data	Segment/Sequence #	VISTA Mapping
Observation Results:		
Surgery Case Number	OBR-3	SURGERY file (#130), IEN
Operating Room	OBX-5	Surgery field: OPERATING ROOM (#.02)
Start Time of Surgical Procedure	OBR-7	Surgery field: TIME OPERATION BEGAN (#.22)
Completion Time of All Operative Procedures for Case	OBR-8	Surgery field: TIME OPERATION ENDS (#.23)
Number of Minutes Necessary to Prepare Operating Room	OBX-5 and 6	Surgery field: OR SET-UP TIME (#.44)
Time Patient Arrived in Holding Area	OBX-5	Surgery field: TIME PAT IN HOLD AREA (#.203)
Time Nurse Presents	OBX-5	Surgery field: NURSE PRESENT TIME (#.202)
Time Patient Transported into the Operation Room	OBX-5	Surgery field: TIME PAT IN OR (#.205)
Time Anesthetist Declares Patient Ready for Start of Procedure	OBX-5	Surgery field: INDUCTION COMPLETE (#.215)
Anesthesiology Staff Supervisor	OBX-5	Surgery field: ANESTHESIOLOGIST SUPVR (#.34)
Anesthesiologist Supervise code	OBX-5	Surgery field: ANES SUPERVISE CODE (#.345)
Principal Anesthesiologist	OBX-5	Surgery field: PRINC ANESTHETIST (#.31)
Assistant to the Principal Anesthetist	OBX-5	Surgery field: ASST ANESTHETIST (#.33)
Anesthetist Relieving the Principal Anesthetist	OBX-5	Surgery field: RELIEF ANESTHETIST (#.32)
Time Anesthetist Available to Service Patient	OBX-5	Surgery field: ANES AVAIL TIME (#.204)

Bidirectional Information

Data	Segment/Sequence #	VISTA Mapping
Observation Results:		
Time Anesthesia Care Begins	OBX-5	Surgery field: ANES CARE START TIME (#.21)
Time Anesthesia Care Ends	OBX-5	Surgery field: ANES CARE END TIME (#.24)
Surgeon	OBX-5	Surgery field: SURGEON (#.14)
Number of Post Graduate Years completed by the Primary Surgeon	OBX-5	Surgery field: PGY OF PRIMARY SURGEON (#214)
Time Authorized Surgeon Available to Begin Operation	OBX-5	Surgery field: SURG PRESENT TIME (#.206)
Code Corresponding to Highest Level of Supervision Provided by Attending Staff Surgeon	OBX-5	Surgery field: ATTENDING CODE (#.165)
Non-OR location for Non-OR Procedure	OBX-5	Surgery field: NON-OR LOCATION (#119)
Date/Time the Non-OR Procedure Began	OBR-7	Surgery field: TIME PROCEDURE BEGAN (#121)
Date/Time the Non-OR Procedure Ended	OBR-8	Surgery field: TIME PROCEDURE ENDED (#122)
Provider for Non-OR Procedure	OBX-5	Surgery field: PROVIDER (#123)
Attending Provider for Non-OR Procedure	OBX-5	Surgery field: ATTEND PROVIDER (#124)
Time Patient is Taken from Operating Room	OBX-5	Surgery field: TIME PAT OUT OR (#.232)
Case Schedule Type	OBX-5	Surgery field: CASE SCHEDULE TYPE (#.035)
ASA Classification	OBX-5	Surgery field: ASA CLASS (#1.13)

Bidirectional Information

Data	Segment/Sequence #	VISTA Mapping
Observation Results:		
Estimated Number of Milliliters of Blood Lost During Procedure	OBX-5 and 6	Surgery field: BLOOD LOSS (ML) (#.25)
Temperature in Centigrade at End of Anesthesia Care	OBX-5 and 6	Surgery field: FINAL ANESTHESIA TEMP (#.65)
Number of Milliliters of Urine Output During Operative Procedure	OBX-5 and 6	Surgery field: TOTAL URINE OUTPUT (ML) (#.255)
Patient's Pulse Rate at End of Operative Procedure	OBX-5	Surgery field: END PULSE (#.84)
Patient's Rate of Respiration at End of Operative Procedure	OBX-5 and 6	Surgery field: END RESP (#.86)
Patient's Systolic/Diastolic Blood Pressure at End of Operative Procedure	OBX-5	Surgery field: END BP (#.85)
Date/Time Tourniquet Applied	OBR-5	Surgery field: TIME TOURNIQUET APPLIED (#.01 of Subfile #130.02)
Date/Time Tourniquet Released	OBR-6	Surgery field: TIME TOURNIQUET REL. (#3 of Subfile #130.02)
Site Tourniquet Applied	OBX-3	Surgery field: SITE APPLIED (#1 of Subfile #130.02)
Tourniquet Pressure Applied (in TORR)	OBX-5 and 6	Surgery field: PRESSURE (#4 of Subfile #130.02)
Person Applying the Tourniquet	OBX-16	Surgery field: TOURNIQUET APPL. BY (#2 of Subfile #130.02)
Type of Fluid Given Intravascularly During Operative Period	OBX-3	Surgery field: REPLACEMENT FLUID TYPE (#.01 of Subfile #130.04)

Bidirectional Information

Data	Segment/Sequence #	VISTA Mapping
Observation Results:		
Number of Milliliters of Replacement Fluid Given Intravascularly During Operative Procedure	OBX-5 and 6	Surgery field: QTY OF FLUID (ml) (#1 of Subfile #130.04)
Time Monitor Applied to Patient	OBR-6	Surgery field: TIME INSTALLED (#1 of Subfile #130.41)
Time Monitor Removed from Patient	OBR-7	Surgery field: TIME REMOVED (#2 of Subfile #130.41)
Type of Physiologic Monitor Used During Case	OBX-3	Surgery field: MONITORS (#.01 of Subfile #130.41)
Person Applying the Monitor	OBX-16	Surgery field: APPLIED BY (#3 of Subfile #130.41)
Name of Medication	OBR-4	Surgery field: MEDICATIONS (#.01 of Subfile #130.33)
Date/Time Medication Administered	OBR-7	Surgery field: TIME ADM (#.01 of Subfile #130.34)
Medication Ordered By	OBR-16	Surgery field: ORDERED BY (#2 of Subfile #130.34)
Medication Dosage	OBX-5	Surgery field: DOSE (#1 of Subfile #130.34)
Medication Administered By	OBX-16	Surgery field: ADMIN BY (#3 of Subfile #130.34)
Medication Route	OBX-5	Surgery field: ROUTE (#4 of Subfile #130.34)
Anesthesia Technique Used During Case	OBR-4	Surgery field: ANESTHESIA TECHNIQUE (#.01 of Subfile #130.06)

Bidirectional Information

Data	Segment/Sequence #	VISTA Mapping
Observation Results:		
Anesthesia Comments	NTE-3	Surgery field: ANESTHESIA COMMENTS (#.01 of Subfile #130.5)
Principal Anesthesia Technique for Procedure (Y/N)?	OBX-5	Surgery field: PRINCIPAL TECH (#.05 of Subfile #130.06)
Method Used to Determine Placement of Epidural Needle	OBX-5	Surgery field: EPIDURAL METHOD (#30 of Subfile #130.06)
Anesthesia Agents Used for Technique	OBX-3	Surgery field: ANESTHESIA AGENTS (#.01 of Subfile #130.47)
End Total Dose in Milligrams for Nonvolatile Agents	OBX-5 and 6	Surgery field: DOSE (mg) (#1 of Subfile #130.47)
Person Responsible for Removing Endotracheal Tube	OBX-5	Surgery field: EXTUBATED BY (#39 of Subfile #130.06)
Patient Status While Anesthetized	OBX-5	Surgery field: PATIENT STATUS (#2 of Subfile #130.06)
Endotracheal Tube Route	OBX-5	Surgery field: ROUTE (#4 of Subfile #130.06)
Approach Technique Used for Endotracheal Intubation	OBX-5	Surgery field: APPROACH (#3 of Subfile #130.06)
Type of Laryngoscope Blade Used to Facilitate Endotracheal Intubation	OBX-5	Surgery field: LARYNGOSCOPE TYPE (#5 of Subfile #130.06)
Laryngoscope Size Used to Facilitate Endotracheal Intubation	OBX-5	Surgery field: LARYNGOSCOPE SIZE (#6 of Subfile #130.06)

Bidirectional Information

Data	Segment/Sequence #	VISTA Mapping
Observation Results:		
Type of Endotracheal Tube Used During Major Portion of Procedure	OBX-5	Surgery field: TUBE TYPE (#10 of Subfile #130.06)
Endotracheal Tube Size	OBX-5	Surgery field: TUBE SIZE (#11 of Subfile #130.06)
Anesthesia Ventilator Tidal Volume Setting at End of Case	OBX-5	Surgery field: END VENT. T.V. (#19 of Subfile #130.06)
Anesthesia Ventilator Rate Setting at End of Operative Procedure	OBX-5	Surgery field: END VENT. RATE (#20 of Subfile #130.06)
Location Where the Endotracheal Tube Removed	OBX-5	Surgery field: EXTUBATED IN (#21 of Subfile #130.06)
Baricity	OBX-5	Surgery field: BARICITY (#26 of Subfile #130.06)
Method of Administration of Anesthetic Agent	OBX-5	Surgery field: ADMINISTRATION METHOD (#36 of Subfile #130.06)
Epidural Test Dose	OBX-3	Surgery field: TEST DOSE (#.01 of Subfile #130.48)
Volume in Milligrams of Test Dose Fluid	OBX-5	Surgery field: TEST DOSE VOL (ml) (#33 of Subfile #130.06)
Non-OR Procedure Occurrence	OBR-4	Surgery field: PROCEDURE OCCURRENCE (#.01 of Subfile #130.0126)
Date that the non-OR Occurrence was Noted	OBX-5	Surgery field: DATE OCCURRENCE NOTED (#2 of Subfile #130.0126)

Bidirectional Information

Data	Segment/Sequence #	VISTA Mapping
Observation Results:		
Non-OR Occurrence Category	OBX-5	Surgery field: OCCURRENCE CATEGORY (#5 of Subfile #130.0126)
Treatment Instituted to the Non-OR Occurrence	OBX-5	Surgery field: TREATMENT INSTITUTED (#3 of Subfile #130.0126)
Outcome to date of the Non-OR Occurrence	OBX-5	Surgery field: OUTCOME TO DATE (#1 of Subfile #130.0126)
Occurrence not related to the Surgery	OBR-4	Surgery field: NON- OPERATIVE OCCURRENCE (#.01 of Subfile #130.053)
Date that the Non-Operative Occurrence was Noted	OBX-5	Surgery field: DATE OCCURRENCE NOTED (#2 of Subfile #130.053)
Non-Operative Occurrence Category	OBX-5	Surgery field: OCCURRENCE CATEGORY (#5 of Subfile #130.053)
Treatment Instituted to the Non-Operative Occurrence	OBX-5	Surgery field: TREATMENT INSTITUTED (#3 of Subfile #130.053)
Outcome to date of the Non-Operative Occurrence	OBX-5	Surgery field: OUTCOME TO DATE (#1 of Subfile #130.053)
Intraoperative Occurrence	OBR-4	Surgery field: INTRAOPERATIVE OCCURRENCES (#.01 of Subfile #130.13)
Intraoperative Occurrence Category	OBX-5	Surgery field: OCCURRENCE CATEGORY (#3 of Subfile #130.13)

Bidirectional Information

Data	Segment/Sequence #	VISTA Mapping
Observation Results:		
ICD Diagnosis Code related to the Intraoperative Occurrence	OBX-5	Surgery field: ICD DIAGNOSIS CODE (#4 of Subfile #130.13)
Outcome to date of the Intraoperative Occurrence	OBX-5	Surgery field: OUTCOME TO DATE (#.05 of Subfile #130.13)
Postoperative Occurrence	OBR-4	Surgery field: POSTOP OCCURRENCES (#.01 of Subfile #130.22)
Postoperative Occurrence Category	OBX-5	Surgery field: OCCURRENCE CATEGORY (#5 of Subfile #130.22)
ICD Diagnosis Code related to the Postoperative Occurrence	OBX-5	Surgery field: ICD DIAGNOSIS CODE (#6 of Subfile #130.22)
Outcome to date of the Postoperative Occurrence	OBX-5	Surgery field: OUTCOME TO DATE (#.05 of Subfile #130.22)

