

JAHIS  
**Integrating the Healthcare Enterprise**



**IHE Endoscopy  
Technical Framework  
Year 4: 2009-2010 (Upper/Lower  
Gastrointestinal Tract)**

**Volume II  
Transaction**

Trial Implementation Version

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## Contents

|          |   |           |
|----------|---|-----------|
| <b>1</b> | <b>INTRODUCTION .....</b>   | <b>2</b>  |
| 1.1      | OVERVIEW OF TECHNICAL FRAMEWORK.....                                | 2         |
| 1.2      | OVERVIEW OF VOLUME II .....   | 2         |
| 1.3      | AUDIENCE .....  | 2         |
| 1.4      | RELATIONSHIP TO STANDARDS.....                                      | 3         |
| 1.5      | RELATIONSHIP TO REAL-WORLD ARCHITECTURES.....                       | 3         |
| 1.6      | COMMENTS.....   | 4         |
| 1.7      | COPYRIGHT PERMISSION .....  | 4         |
| <b>2</b> | <b>CONVENTIONS.....</b>   | <b>5</b>  |
| 2.1      | THE GENERIC IHE TRANSACTION MODEL.....                              | 5         |
| 2.2      | DICOM USAGE CONVENTIONS .....                                       | 6         |
| 2.3      | HL7 PROFILING CONVENTIONS .....                                     | 6         |
| <b>3</b> | <b>COMMON HL7 MESSAGE SEGMENT FOR IHE GASTROINTESTINAL TF .....</b> | <b>8</b>  |
| 3.1      | MSH.....  | 8         |
| 3.2      | NTE .....   | 9         |
| 3.3      | PID.....  | 9         |
| 3.4      | PV1 .....   | 11        |
| 3.5      | ORC .....   | 12        |
| 3.6      | OBR .....   | 14        |
| 3.7      | OBX .....   | 19        |
| 3.8      | TQ1 .....   | 25        |
| 3.9      | IPC.....  | 26        |
| 3.10     | MSA.....  | 28        |
| 3.11     | ERR.....  | 28        |
| 3.12     | TXA.....  | 29        |
| 3.13     | ZE1 - PERFORMED DATA SEGMENT .....                                  | 30        |
| <b>4</b> | <b>IHE TRANSACTIONS .....</b>                                       | <b>32</b> |
| 4.1      | ENDOSCOPY ORDER.....  | 32        |
| 4.2      | PATIENT ARRIVAL NOTIFICATION .....                                  | 35        |
| 4.3      | OBSERVATION REPORT NOTIFICATION.....                                | 37        |
| 4.4      | ENDOSCOPY EXECUTION INFORMATION NOTIFICATION .....                  | 40        |
| 4.5      | ENDOSCOPY ORDER FILLING.....  | 42        |
| 4.6      | ENDOSCOPY STATUS NOTIFICATION .....                                 | 45        |

## **1 Introduction**

### **1.1 Overview of Technical Framework**

This document, the IHE Endoscopy Technical Framework (IHE ENDO-TF), defines specific implementations of established standards to achieve integration goals for endoscopy. Such integration promotes appropriate sharing of medical information to support optimal patient care.

The ENDO-TF is expanded annually, after a period of public review, and maintained regularly through the identification and correction of errors. The current version, rev. 2.0, specifies the IHE transactions defined and implemented as of December 2009. The latest version of the document is available via IHE-J.

The ENDO-TF identifies a subset of the functional components of the healthcare enterprise, called IHE actors, and specifies their interactions in terms of a set of coordinated, standards-based transactions. It describes this body of transactions in progressively greater depth. The present Volume I provides a high-level view of IHE functionality, showing the transactions organized into functional units called Integration Profiles that highlight their capacity to address specific clinical needs. Volume II provides detailed technical descriptions of each endoscopy-specific IHE transaction.

The ENDO-TF is part of a related set of IHE Technical Frameworks, comprised of the following domain-specific documents:

IHE Endoscopy Technical Framework

IHE Cardiology Technical Framework

IHE IT Infrastructure Technical Framework

IHE Radiology Technical Framework

IHE Laboratory Technical Framework

The IHE Endoscopy Integration Profiles rely heavily on, and reference, the transactions defined in those other IHE Technical Framework documents. For the conventions on referencing other frameworks, see Section 1.6.4 within volume I.

### **1.2 Overview of Volume II**

Section 2 presents the conventions regarding the Standards used in transactions defined under IHE.Endoscopy.

Section 3 outlines the HL7 segments which are commonly used in the transactions

Section 4 gives more detailed definitions of transactions of IHE Endoscopy defined in the IHE ENDO volume 1 ,by specifying roles for each actor, the standards employed, the information exchanged and in some cases, implementation options for the transaction.

### **1.3 Audience**

The intended audience of this document is:

- Technical staff of vendors planning to participate in the IHE initiative
- IT departments of healthcare institutions
- Experts involved in standards development
- Anyone interested in the technical aspects of integrating healthcare information systems

## 1.4 Relationship to Standards

The IHE Technical Framework identifies functional components of a distributed healthcare environment (referred to as IHE Actors), solely from the point of view of their interactions in the healthcare enterprise. At its current level of development, it defines a coordinated set of transactions based on the HL7, DICOM, and various Web standards. As the scope of the IHE initiative expands, transactions based on other standards will be included as required.

In some cases, IHE recommends selection of specific options supported by these standards; however, IHE does not introduce technical choices that contradict conformance to these standards. If errors in or extensions to existing standards are identified, IHE's policy is to report them to the appropriate standards bodies for resolution within their conformance and standards evolution strategy.

IHE is therefore an implementation framework, not a standard. Referencing IHE as a standard is inappropriate. Conformance claims by product must still be made in direct reference to specific standards. In addition, vendors who have implemented IHE integration capabilities shall use an IHE Integration Statement to describe the conformance of their product to the specifications in the IHE Technical Framework. The purpose of an IHE Integration Statement is to communicate in a uniform manner to the users of the corresponding product the IHE capabilities it has been designed to support. Vendors publishing IHE Integration Statements accept full responsibility for their content. By comparing the IHE Integration Statements from different implementations, a user familiar with the IHE concepts of Actors and Integration Profiles should be able to determine whether and to what extent communications might be supported between products. See Appendix B.8 for the format of such IHE Integration Statements. IHE encourages implementers to ensure that products implemented in accordance with the IHE Technical Framework also meet the full requirements of the standards underlying IHE, allowing the products to interact, although possibly at a lower level of integration, with products that have been implemented in conformance with those standards, but not in full accordance with the IHE Technical Framework.

## 1.5 Relationship to Real-world Architectures

The IHE Actors and transactions described in the IHE Technical Framework are abstractions of the real-world healthcare information system environment. While some of the transactions are traditionally performed by specific product categories (e.g. HIS, Electronic Patient Record, RIS, PACS, Clinical Information Systems or imaging modalities), the IHE Technical Framework intentionally avoids associating functions or actors with such product categories. For each actor, the IHE Technical Framework defines only those functions associated with integrating information systems. The IHE definition of an actor should therefore not be taken as the complete definition of any product that might implement it, nor should the framework itself be taken to comprehensively describe the architecture of a healthcare information system.

The reason for defining actors and transactions is to provide a basis for defining the interactions among functional components of the healthcare information system environment. In situations where a single physical product implements multiple functions, only the interfaces between the product and external functions in the environment are considered to be significant by the IHE initiative. Therefore, the IHE initiative takes no position as to the relative merits of an integrated environment based on a single, all-encompassing information system versus one based on multiple systems that together achieve the same end. To illustrate most dramatically the possibilities of the IHE Technical Framework, however, the IHE demonstrations emphasize the integration of multiple vendors' systems based on the IHE Technical Framework.

The HL7 version in this document is 2.5, if not otherwise specified. Year 4 covers the scope of the transactions based on HL7, while transactions based on DICOM will be addressed in the future expansion.

## 1.6 Comments

JAHIS welcomes comments on this document and the IHE initiative. They should be directed to the discussion

IHE-J

<http://www.ihe-j.org/index.html>

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## 1.7 Copyright Permission

Health Level Seven, Inc., has granted permission to the IHE to reproduce tables from the HL7 standard. The HL7 tables in this document are copyrighted by Health Level Seven, Inc. All rights reserved.

The National Electrical Manufacturers Association (NEMA) has granted permission to the IHE to incorporate portions of the DICOM standard. Material drawn from these documents is credited where used.

## 2 Conventions

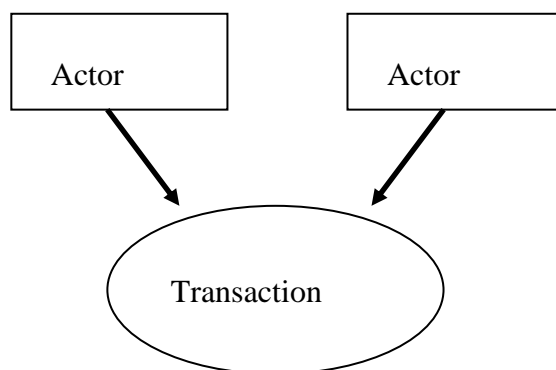
This document has adopted the following conventions for representing the framework concepts and specifying how the standards upon which the IHE Technical Framework is based shall be applied.

### 2.1 The Generic IHE Transaction Model

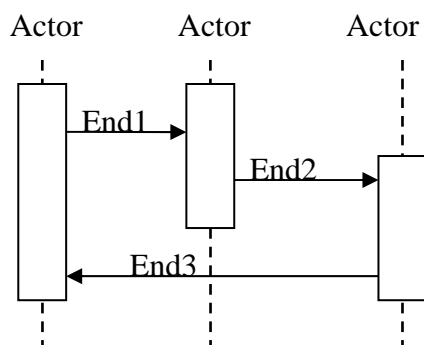
Transaction descriptions are provided in section 4. In each transaction description, the actors, the roles they play, and the transactions between them are presented as use cases.

The generic IHE transaction description includes the following components:

- **Scope:** a brief description of the transaction.
- **Use case roles:** textual definitions of the actors and their roles, with a simple diagram relating them, e.g.:



- **Referenced Standards:** the standards (stating the specific parts, chapters or sections thereof) to be used for the transaction.
- **Interaction Diagram:** a graphical depiction of the actors and transactions, with related processing within an actor shown as a rectangle and time progressing downward, similar to:



- The interaction diagrams used in the IHE Technical Framework are modeled after those described in Grady Booch, James Rumbaugh, and Ivar Jacobson, *The Unified Modeling Language User Guide*, ISBN 0-201-57168-4. Simple acknowledgment messages are omitted from the diagrams for brevity.
- **Message definitions:** descriptions of each message involved in the transaction, the events that trigger the message, its semantics, and the actions that the message triggers in the receiver.

## 2.2 DICOM Usage Conventions

Although the space is reserved for future extension, this chapter is omitted because of the absence of DICOM relating description in the Year 4 document.

## 2.3 HL7 Profiling Conventions

The HL7 tables included in this document have been modified from the HL7 2.5 standard document. Such a modification is called a profile. Refer to the HL7 2.5 standard for the meanings of specific columns in the table.

The profiling tables in this document leverage the ongoing HL7 profile definition. To maintain this specification at a generic level, the following differences have been introduced:

- Message specifications do not indicate the cardinality of segments within a message.
- For fields composed of multiple components, there is no indication of the size of each component.
- Where a table containing enumerated values is referenced from within a segment profile table, the enumerated values table is not always present.
- The number of times a repeating field can repeat is not indicated.
- The conditions that would require inclusion of conditional fields are not defined when they depend on functional characteristics of the system implementing the transaction and they do not affect data consistency.

The following terms refer to the OPT column, which has been profiled:

R Required

R2 This is an IHE extension. If the sending application has data for the field, it is required to populate the field. If the value is not known, the field may not be sent.

O Optional

C Conditional

X Not used with this trigger event

B Left in for backward compatibility with previous version of HL7

N Not usually used in IHE endoscopy transaction

IHE requires that Z-segments be present in HL7 transactions only when defined by the IHE Technical Framework.

According to the HL7 standard, if the value of a field is not present, the receiver shall not change corresponding data in its database. However, if sender includes explicit NULL value (i.e., two double-quotes ""), it shall cause removal of any values for that field in the receiver's database.

Table 2.3-1 provides a sample profile for an imaginary HL7 segment. Tables for real segments are copied from the HL7 2.5 standard with modifications made only to the OPT column.

**Table 2.3-1. Sample HL7 Profile**

| SEQ | LEN | DT | OPT | TBL# | ITEM# | ELEMENT NAME |
|-----|-----|----|-----|------|-------|--------------|
| 1   | 1   | ST | R   |      | xx001 | Element 1    |
| 2   | 4   | ST | O   |      | xx002 | Element 2    |
| 3   | 180 | HD | R2  |      | xx003 | Element 3    |
| 4   | 180 | HD | C   |      | xx004 | Element 4    |

|   |     |    |   |  |       |           |
|---|-----|----|---|--|-------|-----------|
| 5 | 180 | HD | O |  | xx005 | Element 5 |
| 6 | 180 | HD | R |  | xx006 | Element 6 |

### 3 Common HL7 Message Segment for IHE Gastrointestinal TF

#### 3.1 MSH

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

HL7 Attribute Table - MSH - Message Header

| SEQ | LEN | DT  | OPT | RP/# | TBL#                 | ITEM # | ELEMENT NAME                            |
|-----|-----|-----|-----|------|----------------------|--------|---|
| 1   | 1   | ST  | R   |      |                      | 00001  | Field Separator                         |
| 2   | 4   | ST  | R   |      |                      | 00002  | Encoding Characters                     |
| 3   | 227 | HD  | O   |      |                      | 00003  | Sending Application                     |
| 4   | 227 | HD  | O   |      |                      | 00004  | Sending Facility                        |
| 5   | 227 | HD  | O   |      |                      | 00005  | Receiving Application                   |
| 6   | 227 | HD  | O   |      |                      | 00006  | Receiving Facility                      |
| 7   | 26  | TS  | R   |      |                      | 00007  | Date/Time Of Message                    |
| 8   | 40  | ST  | O   |      |                      | 00008  | Security                                |
| 9   | 15  | MSG | R   |      |                      | 00009  | Message Type                            |
| 10  | 20  | ST  | R   |      |                      | 00010  | Message Control ID                      |
| 11  | 3   | PT  | R   |      |                      | 00011  | Processing ID                           |
| 12  | 60  | VID | R   |      | <a href="#">0104</a> | 00012  | Version ID                              |
| 13  | 15  | NM  | O   |      |                      | 00013  | Sequence Number                         |
| 14  | 180 | ST  | O   |      |                      | 00014  | Continuation Pointer                    |
| 15  | 2   | ID  | O   |      | 0155                 | 00015  | Accept Acknowledgment Type              |
| 16  | 2   | ID  | O   |      | 0155                 | 00016  | Application Acknowledgment Type         |
| 17  | 3   | ID  | O   |      | 0399                 | 00017  | Country Code                            |
| 18  | 16  | ID  | O   | Y    | 0211                 | 00692  | Character Set                           |
| 19  | 250 | CE  | O   |      |                      | 00693  | Principal Language Of Message           |
| 20  | 20  | ID  | O   |      | 0356                 | 01317  | Alternate Character Set Handling Scheme |
| 21  | 427 | EI  | O   | Y    |                      | 01598  | Message Profile Identifier              |

##### 3.1.0 MSH field definitions

See HL7 Ver2.5 Section 2.15.9 “MSH – message header segment”.

##### 3.1.1 MSH-12 Version ID (VID) 00012

Definition: This field is matched by the receiving system to its own version to be sure the message will be interpreted correctly.

The version ID of this Protocol is designated as 2.5.

HL7 Table 0104 - Version ID

| Value | Description | Comment (Date) |
|-------|-------------|----------------|
| 2.0   | Release 2.0 | September 1988 |
| 2.0D  | Demo 2.0    | October 1988   |

| Value | Description   | Comment (Date) |
|-------|---------------|----------------|
| 2.1   | Release 2. 1  | March 1990     |
| 2.2   | Release 2.2   | December 1994  |
| 2.3   | Release 2.3   | March 1997     |
| 2.3.1 | Release 2.3.1 | May 1999       |
| 2.4   | Release 2.4   | November 2000  |
| 2.5   | Release 2.5   | May 2003       |

## 3.2 NTE

The NTE segment is defined here for inclusion in messages defined in other chapters. It is commonly used for sending notes and comments.

The technical committees define the meaning of the NTE segments within the context of the messages in their chapters. For each NTE, the description in the message attribute table should include an indication of the segment associated with the NTE, for example "Notes and Comments for the PID".

HL7 Attribute Table - NTE - Notes and Comments

| SEQ | LEN   | DT | OPT | RP/# | TBL# | ITEM # | ELEMENT NAME      |
|-----|-------|----|-----|------|------|--------|-------------------|
| 1   | 4     | SI | O   |      |      | 00096  | Set ID - NTE      |
| 2   | 8     | ID | O   |      | 0105 | 00097  | Source of Comment |
| 3   | 65536 | FT | O   | Y    |      | 00098  | Comment           |
| 4   | 250   | CE | O   |      | 0364 | 01318  | Comment Type      |

### 3.2.0 NTE field definitions

See HL7 Ver2.5 Section 2.15.10 "NTE-Notes and Comments Segment"

## 3.3 PID

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, for the most part, is not likely to change frequently.

HL7 Attribute Table - PID - Patient Identification

| SEQ | LEN | DT | OPT | RP/# | TBL# | ITEM# | ELEMENT NAME               |
|-----|-----|----|-----|------|------|-------|----------------------------|
| 1   | 4   | SI | O   |      |      | 00104 | Set ID - PID               |
| 2   | 20  | CX | B   |      |      | 00105 | Patient ID                 |
| 3   | 250 | CX | R   | Y    |      | 00106 | Patient Identifier List    |
| 4   | 20  | CX | B   | Y    |      | 00107 | Alternate Patient ID - PID |
| 5   | 250 | XP | R   | Y    |      | 00108 | Patient Name               |
| 6   | 250 | XP | O   | Y    |      | 00109 | Mother's Maiden Name       |
| 7   | 26  | TS | O   |      |      | 00110 | Date/Time of Birth         |
| 8   | 1   | IS | O   |      | 0001 | 00111 | Administrative Sex         |
| 9   | 250 | XP | B   | Y    |      | 00112 | Patient Alias              |

| SEQ | LEN | DT  | OPT | RP/# | TBL# | ITEM# | ELEMENT NAME                      |
|-----|-----|-----|-----|------|------|-------|-----------------------------------|
| 10  | 250 | CE  | O   | Y    | 0005 | 00113 | Race                              |
| 11  | 250 | XAD | O   | Y    |      | 00114 | Patient Address                   |
| 12  | 4   | IS  | B   |      |      | 00115 | County Code                       |
| 13  | 250 | XTN | O   | Y    |      | 00116 | Phone Number - Home               |
| 14  | 250 | XTN | O   | Y    |      | 00117 | Phone Number - Business           |
| 15  | 250 | CE  | O   |      | 0296 | 00118 | Primary Language                  |
| 16  | 250 | CE  | O   |      | 0002 | 00119 | Marital Status                    |
| 17  | 250 | CE  | O   |      | 0006 | 00120 | Religion                          |
| 18  | 250 | CX  | O   |      |      | 00121 | Patient Account Number            |
| 19  | 16  | ST  | B   |      |      | 00122 | SSN Number - Patient              |
| 20  | 25  | DLN | B   |      |      | 00123 | Driver's License Number - Patient |
| 21  | 250 | CX  | O   | Y    |      | 00124 | Mother's Identifier               |
| 22  | 250 | CE  | O   | Y    | 0189 | 00125 | Ethnic Group                      |
| 23  | 250 | ST  | O   |      |      | 00126 | Birth Place                       |
| 24  | 1   | ID  | O   |      |      | 00127 | Multiple Birth Indicator          |
| 25  | 2   | NM  | O   |      |      | 00128 | Birth Order                       |
| 26  | 250 | CE  | O   | Y    | 0171 | 00129 | Citizenship                       |
| 27  | 250 | CE  | O   |      | 0172 | 00130 | Veterans Military Status          |
| 28  | 250 | CE  | B   |      | 0212 | 00739 | Nationality                       |
| 29  | 26  | TS  | O   |      |      | 00740 | Patient Death Date and Time       |
| 30  | 1   | ID  | O   |      |      | 00741 | Patient Death Indicator           |
| 31  | 1   | ID  | O   |      |      | 01535 | Identity Unknown Indicator        |
| 32  | 20  | IS  | O   | Y    | 0445 | 01536 | Identity Reliability Code         |
| 33  | 26  | TS  | O   |      |      | 01537 | Last Update Date/Time             |
| 34  | 241 | HD  | O   |      |      | 01538 | Last Update Facility              |
| 35  | 250 | CE  | N   |      | 0446 | 01539 | Species Code                      |
| 36  | 250 | CE  | N   |      | 0447 | 01540 | Breed Code                        |
| 37  | 80  | ST  | N   |      |      | 01541 | Strain                            |
| 38  | 250 | CE  | N   | 2    | 0429 | 01542 | Production Class Code             |
| 39  | 250 | CWE | O   | Y    | 0171 | 01840 | Tribal Citizenship                |

### 3.3.0 PID field definitions

See HL7 Ver2.5 Section 3.4.2 "PID – Patient Identification Segment"

#### 3.3.1 PID-35 Species Code (CE) 01539

Since this document is targeted at humans, this field is not used.

#### 3.3.2 PID-36 Breed Code (CE) 01540

Since this document is targeted at humans, this field is not used.

### 3.3.3 PID-37 Strain (ST) 01541

Since this document is targeted at humans, this field is not used.

### 3.3.4 PID-38 Production Class Code (CE) 01542

Since this document is targeted at humans, this field is not used.

## 3.4 PV1

The PV1 segment is used by Registration/Patient Administration applications to communicate information on an account or visit-specific basis. The default is to send account level data. To use this segment for visit level data *PV1-51 - Visit Indicator* must be valued to "V". The value of PV-51 affects the level of data being sent on the PV1, PV2, and any other segments that are part of the associated PV1 hierarchy (e.g. ROL, DG1, or OBX).

The facility ID, the optional fourth component of each patient location field, is a HD data type that is uniquely associated with the healthcare facility containing the location. A given institution, or group of intercommunicating institutions, should establish a list of facilities that may be potential assignors of patient locations. The list will be one of the institution's master dictionary lists. Since third parties other than the assignors of patient locations may send or receive HL7 messages containing patient locations, the facility ID in the patient location may not be the same as that implied by the sending and receiving systems identified in the MSH. The facility ID must be unique across facilities at a given site. This field is required for HL7 implementations that have more than a single healthcare facility with bed locations, since the same <point of care> ^ <room> ^ <bed> combination may exist at more than one facility.

HL7 Attribute Table - PV1 - Patient Visit

| SEQ | LEN | DT  | OPT | RP/# | TBL# | ITEM# | ELEMENT NAME              |
|-----|-----|-----|-----|------|------|-------|---------------------------|
| 1   | 4   | SI  | O   |      |      | 00131 | Set ID - PV1              |
| 2   | 1   | IS  | R   |      | 0004 | 00132 | Patient Class             |
| 3   | 80  | PL  | O   |      |      | 00133 | Assigned Patient Location |
| 4   | 2   | IS  | O   |      | 0007 | 00134 | Admission Type            |
| 5   | 250 | CX  | O   |      |      | 00135 | Preadmit Number           |
| 6   | 80  | PL  | O   |      |      | 00136 | Prior Patient Location    |
| 7   | 250 | XCN | O   | Y    | 0010 | 00137 | Attending Doctor          |
| 8   | 250 | XCN | O   | Y    | 0010 | 00138 | Referring Doctor          |
| 9   | 250 | XCN | B   | Y    | 0010 | 00139 | Consulting Doctor         |
| 10  | 3   | IS  | O   |      | 0069 | 00140 | Hospital Service          |
| 11  | 80  | PL  | O   |      |      | 00141 | Temporary Location        |
| 12  | 2   | IS  | O   |      | 0087 | 00142 | Preadmit Test Indicator   |
| 13  | 2   | IS  | O   |      | 0092 | 00143 | Re-admission Indicator    |
| 14  | 6   | IS  | O   |      |      | 00144 | Admit Source              |
| 15  | 2   | IS  | O   | Y    | 0009 | 00145 | Ambulatory Status         |
| 16  | 2   | IS  | O   |      | 0099 | 00146 | VIP Indicator             |
| 17  | 250 | XCN | O   | Y    | 0010 | 00147 | Admitting Doctor          |
| 18  | 2   | IS  | O   |      | 0018 | 00148 | Patient Type              |
| 19  | 250 | CX  | O   |      |      | 00149 | Visit Number              |
| 20  | 50  | FC  | O   | Y    | 0064 | 00150 | Financial Class           |

| SEQ | LEN | DT  | OPT | RP/# | TBL# | ITEM# | ELEMENT NAME              |
|-----|-----|-----|-----|------|------|-------|---------------------------|
| 21  | 2   | IS  | O   |      | 0032 | 00151 | Charge Price Indicator    |
| 22  | 2   | IS  | O   |      | 0045 | 00152 | Courtesy Code             |
| 23  | 2   | IS  | O   |      | 0046 | 00153 | Credit Rating             |
| 24  | 2   | IS  | O   | Y    | 0044 | 00154 | Contract Code             |
| 25  | 8   | DT  | O   | Y    |      | 00155 | Contract Effective Date   |
| 26  | 12  | NM  | O   | Y    |      | 00156 | Contract Amount           |
| 27  | 3   | NM  | O   | Y    |      | 00157 | Contract Period           |
| 28  | 2   | IS  | O   |      | 0073 | 00158 | Interest Code             |
| 29  | 4   | IS  | O   |      | 0110 | 00159 | Transfer to Bad Debt Code |
| 30  | 8   | DT  | O   |      |      | 00160 | Transfer to Bad Debt Date |
| 31  | 10  | IS  | O   |      | 0021 | 00161 | Bad Debt Agency Code      |
| 32  | 12  | NM  | O   |      |      | 00162 | Bad Debt Transfer Amount  |
| 33  | 12  | NM  | O   |      |      | 00163 | Bad Debt Recovery Amount  |
| 34  | 1   | IS  | O   |      | 0111 | 00164 | Delete Account Indicator  |
| 35  | 8   | DT  | O   |      |      | 00165 | Delete Account Date       |
| 36  | 3   | IS  | O   |      | 0112 | 00166 | Discharge Disposition     |
| 37  | 47  | DLD | O   |      | 0113 | 00167 | Discharged to Location    |
| 38  | 250 | CE  | O   |      | 0114 | 00168 | Diet Type                 |
| 39  | 2   | IS  | O   |      | 0115 | 00169 | Servicing Facility        |
| 40  | 1   | IS  | B   |      | 0116 | 00170 | Bed Status                |
| 41  | 2   | IS  | O   |      | 0117 | 00171 | Account Status            |
| 42  | 80  | PL  | O   |      |      | 00172 | Pending Location          |
| 43  | 80  | PL  | O   |      |      | 00173 | Prior Temporary Location  |
| 44  | 26  | TS  | O   |      |      | 00174 | Admit Date/Time           |
| 45  | 26  | TS  | O   | Y    |      | 00175 | Discharge Date/Time       |
| 46  | 12  | NM  | O   |      |      | 00176 | Current Patient Balance   |
| 47  | 12  | NM  | O   |      |      | 00177 | Total Charges             |
| 48  | 12  | NM  | O   |      |      | 00178 | Total Adjustments         |
| 49  | 12  | NM  | O   |      |      | 00179 | Total Payments            |
| 50  | 250 | CX  | O   |      |      | 00180 | Alternate Visit ID        |
| 51  | 1   | IS  | O   |      | 0326 | 01226 | Visit Indicator           |
| 52  | 250 | XCN | B   | Y    | 0010 | 01274 | Other Healthcare Provider |

### 3.4.0 PV1 field definitions

See HL7 Ver2.5 Section 3.4.3 “PV1 – Patient Visit Segment”.

## 3.5 ORC

The Common Order segment (ORC) is used to transmit fields that are common to all orders (all types of services that are requested). The ORC segment is required in the Order (ORM) message. ORC is

mandatory in Order Acknowledgment (ORR) messages if an order detail segment is present, but is not required otherwise.

If details are needed for a particular type of order segment (e.g., Pharmacy, Dietary), the ORC must precede any order detail segment (e.g., RXO, ODS). In some cases, the ORC may be as simple as the string `ORC|OK|<placer order number>|<filler order number>|<cr>`.

If details are not needed for the order, the order detail segment may be omitted. For example, to place an order on hold, one would transmit an ORC with the following fields completed: *ORC-1-order control* with a value of HD, *ORC-2-placer order number*, and *ORC-3-filler order number*.

There is some overlap between fields of the ORC and those in the order detail segments. These are described in the succeeding sections.

HL7 Attribute Table – ORC – Common Order

| SEQ | LEN | DT  | OPT | RP/# | TBL# | ITEM# | ELEMENT NAME                                |
|-----|-----|-----|-----|------|------|-------|---|
| 1   | 2   | ID  | R   |      | 0119 | 00215 | Order Control                               |
| 2   | 22  | EI  | C   |      |      | 00216 | Placer Order Number                         |
| 3   | 22  | EI  | C   |      |      | 00217 | Filler Order Number                         |
| 4   | 22  | EI  | O   |      |      | 00218 | Placer Group Number                         |
| 5   | 2   | ID  | O   |      | 0038 | 00219 | Order Status                                |
| 6   | 1   | ID  | O   |      | 0121 | 00220 | Response Flag                               |
| 7   | 200 | TQ  | B   | Y    |      | 00221 | Quantity/Timing                             |
| 8   | 200 | EIP | O   |      |      | 00222 | Parent                                      |
| 9   | 26  | TS  | O   |      |      | 00223 | Date/Time of Transaction                    |
| 10  | 250 | XCN | O   | Y    |      | 00224 | Entered By                                  |
| 11  | 250 | XCN | O   | Y    |      | 00225 | Verified By                                 |
| 12  | 250 | XCN | O   | Y    |      | 00226 | Ordering Provider                           |
| 13  | 80  | PL  | O   |      |      | 00227 | Enterer's Location                          |
| 14  | 250 | XTN | O   | Y/2  |      | 00228 | Call Back Phone Number                      |
| 15  | 26  | TS  | O   |      |      | 00229 | Order Effective Date/Time                   |
| 16  | 250 | CE  | O   |      |      | 00230 | Order Control Code Reason                   |
| 17  | 250 | CE  | O   |      |      | 00231 | Entering Organization                       |
| 18  | 250 | CE  | O   |      |      | 00232 | Entering Device                             |
| 19  | 250 | XCN | O   | Y    |      | 00233 | Action By                                   |
| 20  | 250 | CE  | O   |      | 0339 | 01310 | Advanced Beneficiary Notice Code            |
| 21  | 250 | XON | O   | Y    |      | 01311 | Ordering Facility Name                      |
| 22  | 250 | XAD | O   | Y    |      | 01312 | Ordering Facility Address                   |
| 23  | 250 | XTN | O   | Y    |      | 01313 | Ordering Facility Phone Number              |
| 24  | 250 | XAD | O   | Y    |      | 01314 | Ordering Provider Address                   |
| 25  | 250 | CWE | O   |      |      | 01473 | Order Status Modifier                       |
| 26  | 60  | CWE | C   |      | 0552 | 01641 | Advanced Beneficiary Notice Override Reason |
| 27  | 26  | TS  | O   |      |      | 01642 | Filler's Expected Availability Date/Time    |
| 28  | 250 | CWE | O   |      | 0177 | 00615 | Confidentiality Code                        |
| 29  | 250 | CWE | O   |      | 0482 | 01643 | Order Type                                  |

| SEQ | LEN | DT  | OPT | RP/# | TBL# | ITEM# | ELEMENT NAME               |
|-----|-----|-----|-----|------|------|-------|----------------------------|
| 30  | 250 | CNE | O   |      | 0483 | 01644 | Enterer Authorization Mode |

ORC use notes

a) placer order groups

The Standard supports a mechanism to collect several orders together in a group. Most often this is used to represent an "ordering session" for a single patient.

An order group is a list of orders (ORCs) associated with an *ORC-4-placer group number*. A group is established when the placer supplies a placer group number with the original order. The order group consists of all the ORCs and order detail segments that have the same placer group number. Orders can be removed from the group using cancel, or added using the replacement or parent-child mechanisms. New orders cannot otherwise be added to the group.

b) duplicate fields

The ORC is intended to uniformly define the fields that are common to all orders (i.e., requested services). Some ORC fields are duplicated in some order detail segments (e.g., OBR, RXO). For example, *ORC-2-placer order number* has the same meaning and purpose as *OBR-2-placer order number* field. This promotes upward compatibility with past versions and ASTM.

The rule for using these fields is that the value must appear in the order detail segment if it does not appear in the ORC. However, it is recommended to transmit the field value in both places to avoid confusion.

c) parent/child - cancel, hold, discontinue

During transmission of a request to cancel, hold, or discontinue a parent order, the request is intended to apply recursively to the parent order and all associated child orders.

For example:

- 1) An EKG application receives an order for three EKGs on successive mornings.
- 2) The EKG application creates three child orders, one for each requested EKG.
- 3) The first daily EKG has already been performed when a request is received to cancel the original parent order. (The parent is beyond the point of cancellation.)
- 4) The remaining, unperformed, children are canceled as a result of the request.

### 3.5.0 ORC field definitions

See HL7 Ver2.5 Section 4.5.1 "ORC-Common Order Segment".

## 3.6 OBR

General (taken from ASTM E1238)

The Observation Request (OBR) segment is used to transmit information specific to an order for a diagnostic study or observation, physical exam, or assessment.

The Observation Request segment defines the attributes of a particular request for diagnostic services (e.g., laboratory, EKG) or clinical observations (e.g., vital signs or physical exam). When a placer requests a given set of observations, always include an order segment. For endoscopy (e.g. the upper gastronomic tract examination), a separate order segment will usually be generated for each examination.

HL7 Attribute Table – OBR – Observation Request

| SEQ | LEN | DT  | OPT | RP/# | TBL# | ITEM # | ELEMENT NAME                              |
|-----|-----|-----|-----|------|------|--------|---|
| 1   | 4   | SI  | O   |      |      | 00237  | Set ID – OBR                              |
| 2   | 22  | EI  | C   |      |      | 00216  | Placer Order Number                       |
| 3   | 22  | EI  | C   |      |      | 00217  | Filler Order Number                       |
| 4   | 250 | CE  | R   |      |      | 00238  | Universal Service Identifier              |
| 5   | 2   | ID  | B   |      |      | 00239  | Priority – OBR                            |
| 6   | 26  | TS  | B   |      |      | 00240  | Requested Date/Time                       |
| 7   | 26  | TS  | C   |      |      | 00241  | Observation Date/Time #                   |
| 8   | 26  | TS  | O   |      |      | 00242  | Observation End Date/Time #               |
| 9   | 20  | CQ  | N   |      |      | 00243  | Collection Volume *                       |
| 10  | 250 | XCN | N   | Y    |      | 00244  | Collector Identifier *                    |
| 11  | 1   | ID  | N   |      |      | 00245  | Specimen Action Code *                    |
| 12  | 250 | CE  | O   |      |      | 00246  | Danger Code                               |
| 13  | 300 | ST  | O   |      |      | 00247  | Relevant Clinical Information             |
| 14  | 26  | TS  | N   |      |      | 00248  | Specimen Received Date/Time *             |
| 15  | 300 | SPS | N   |      |      | 00249  | Specimen Source                           |
| 16  | 250 | XCN | O   | Y    |      | 00226  | Ordering Provider                         |
| 17  | 250 | XTN | O   | Y/2  |      | 00250  | Order Callback Phone Number               |
| 18  | 60  | ST  | O   |      |      | 00251  | Placer Field 1                            |
| 19  | 60  | ST  | O   |      |      | 00252  | Placer Field 2                            |
| 20  | 60  | ST  | O   |      |      | 00253  | Filler Field 1 +                          |
| 21  | 60  | ST  | O   |      |      | 00254  | Filler Field 2 +                          |
| 22  | 26  | TS  | C   |      |      | 00255  | Results Rpt/Status Chng - Date/Time +     |
| 23  | 40  | MOC | O   |      |      | 00256  | Charge to Practice +                      |
| 24  | 10  | ID  | O   |      | 0074 | 00257  | Diagnostic Serv Sect ID                   |
| 25  | 1   | ID  | C   |      | 0123 | 00258  | Result Status +                           |
| 26  | 400 | PRL | O   |      |      | 00259  | Parent Result +                           |
| 27  | 200 | TQ  | B   | Y    |      | 00221  | Quantity/Timing                           |
| 28  | 250 | XCN | O   | Y    |      | 00260  | Result Copies To                          |
| 29  | 200 | EIP | O   |      |      | 00261  | Parent                                    |
| 30  | 20  | ID  | O   |      | 0124 | 00262  | Transportation Mode                       |
| 31  | 250 | CE  | O   | Y    |      | 00263  | Reason for Study                          |
| 32  | 200 | NDL | O   |      |      | 00264  | Principal Result Interpreter +            |
| 33  | 200 | NDL | O   | Y    |      | 00265  | Assistant Result Interpreter +            |
| 34  | 200 | NDL | O   | Y    |      | 00266  | Technician +                              |
| 35  | 200 | NDL | O   | Y    |      | 00267  | Transcriptionist +                        |
| 36  | 26  | TS  | O   |      |      | 00268  | Scheduled Date/Time +                     |
| 37  | 4   | NM  | N   |      |      | 01028  | Number of Sample Containers *             |
| 38  | 250 | CE  | N   | Y    |      | 01029  | Transport Logistics of Collected Sample * |
| 39  | 250 | CE  | N   | Y    |      | 01030  | Collector's Comment *                     |
| 40  | 250 | CE  | O   |      |      | 01031  | Transport Arrangement Responsibility      |

| SEQ | LEN | DT  | OPT | RP/# | TBL# | ITEM # | ELEMENT NAME                                    |
|-----|-----|-----|-----|------|------|--------|---|
| 41  | 30  | ID  | O   |      | 0224 | 01032  | Transport Arranged                              |
| 42  | 1   | ID  | O   |      | 0225 | 01033  | Escort Required                                 |
| 43  | 250 | CE  | O   | Y    |      | 01034  | Planned Patient Transport Comment               |
| 44  | 250 | CE  | O   |      | 0088 | 00393  | Procedure Code                                  |
| 45  | 250 | CE  | O   | Y    | 0340 | 01316  | Procedure Code Modifier                         |
| 46  | 250 | CE  | O   | Y    | 0411 | 01474  | Placer Supplemental Service Information         |
| 47  | 250 | CE  | O   | Y    | 0411 | 01475  | Filler Supplemental Service Information         |
| 48  | 250 | CWE | C   |      | 0476 | 01646  | Medically Necessary Duplicate Procedure Reason. |
| 49  | 2   | IS  | O   |      | 0507 | 01647  | Result Handling                                 |

### 3.6.0 OBR field definitions

The daggered (+) items in this segment are created by the filler, not the placer. They are valued by the filler as needed when the OBR segment is returned as part of a report.

*OBR-7-observation date/time* and *OBR-8-observation end date/time* (flagged with #) are the physiologically relevant times. In the case of an observation on a specimen, they represent the start and end of the specimen collection. In the case of an observation obtained directly from a subject (e.g., BP, Chest X-ray), they represent the start and end time of the observation.

See HL7 Ver2.5 Section 4.5.3 “OBR-Observation Request Segment”.

#### 3.6.1 OBR-4 Universal Service Identifier (CE) 00238

Components: <Identifier (ST)> ^ <Text (ST)> ^ <Name of Coding System (ID)> ^ <Alternate Identifier (ST)> ^ <Alternate Text (ST)> ^ <Name of Alternate Coding System (ID)>

Definition: This field contains the identifier code for the requested observation/test/battery. This can be based on local and/or "universal" codes. We recommend the "universal" procedure identifier.

For a parent order, identification codes for the purpose (e.g., “test” and “treatment”) and type (e.g., “upper part” and “lower part”) will be assigned. For a child order, codes indicating details will be assigned such as those indicating organs (e.g. the esophagus and the stomach), those for modalities (e.g. endoscopy) and those for procedures (e.g. polypectomy).

#### 3.6.2 OBR-5 Priority - OBR (ID) 00239

Definition: *This field has been retained for backward compatibility only.* It is not used. Previously priority (e.g., STAT, ASAP), but this information is carried as the ninth component of *TQ1-1-priority*.

#### 3.6.3 OBR-6 Requested Date/Time (TS) 00240

Definition: *This field has been retained for backward compatibility only.* It is not used. Previously requested date/time. The requested date/time of the past must be indicated as the *TQ1-7-starting date/time*.

### **3.6.4 OBR-9 Collection Volume (CQ) 00243**

Definition: For laboratory tests, the collection volume is the volume of a specimen. It is not used in endoscopy.

### **3.6.5 OBR-10 Collector Identifier (XCN) 00244**

Definition: When a specimen is required for the study, this field will identify the person, department, or facility that collected the specimen. Either name or ID code, or both, may be present. It is not used in endoscopy.

### **3.6.6 OBR-11 Specimen Action Code (ID) 00245**

Definition: This field identifies the action to be taken with respect to the specimens that accompany or precede this order. It is not used in endoscopy.

### **3.6.7 OBR-13 Relevant Clinical Information (ST) 00247**

Definition: This field contains the additional clinical information about the patient or specimen. This field is used to report the suspected diagnosis and clinical findings on requests for interpreted diagnostic studies. Examples include reporting the amount of inspired carbon dioxide for blood gasses, the point in the menstrual cycle for cervical pap tests, and other conditions that influence test interpretations. For some orders this information may be sent on a more structured form as a series of OBX segments that immediately follow the order segment. Therefore, using OBX segments is recommended for physical information (e.g. height, weight and vital signs) as well as for examination or medication information.

This field is used when ICD code is transferred as diagnostic information in endoscopy.

### **3.6.8 OBR-14 Specimen Received Date/Time (TS) 00248**

Definition: *This field has been retained for backward compatibility only.*

For observations requiring a specimen, the specimen received date/time is the actual login time at the diagnostic service. It is not used in endoscopy.

### **3.6.9 OBR-15 Specimen Source (SPS) 00249**

Definition: *This field has been retained for backward compatibility only.* This field identifies the site where the specimen should be obtained or where the service should be performed. It is not used in endoscopy.

### **3.6.10 OBR-22 Results Rpt/Status Chng - Date/Time (TS) 00255**

Components: <Time (DTM)> ^ <DEPRECATED-Degree of Precision (ID)>

Definition: This field specifies the date/time when the results were reported or status changed. This field is used to indicate the date and time that the results are composed into a report and released, or that a status, as defined in *ORC-5 order status*, is entered or changed. Usually, the ordering service would want only those results for which the reporting date/time is greater than the date/time the inquiring application last received results. (This is not the date/time when the message is sent)

**3.6.11 OBR-28 Result Copies To (XCN) 00260**

Components: <ID Number (ST)> ^ <Family Name (FN)> ^ <Given Name (ST)> ^ <Second and Further Given Names or Initials Thereof (ST)> ^ <Suffix (e.g., JR or III) (ST)> ^ <Prefix (e.g., DR) (ST)> ^ <DEPRECATED-Degree (e.g., MD) (IS)> ^ <Source Table (IS)> ^ <Assigning Authority (HD)> ^ <Name Type Code (ID)> ^ <Identifier Check Digit (ST)> ^ <Check Digit Scheme (ID)> ^ <Identifier Type Code (ID)> ^ <Assigning Facility (HD)> ^ <Name Representation Code (ID)> ^ <Name Context (CE)> ^ <DEPRECATED-Name ValidityRange (DR)> ^ <Name Assembly Order (ID)> ^ <Effective Date (TS)> ^ <Expiration Date (TS)> ^ <Professional Suffix (ST)> ^ <Assigning Jurisdiction (CWE)> ^ <Assigning Agency or Department (CWE)>

Subcomponents for Family Name (FN): <Surname (ST)> & <Own Surname Prefix (ST)> & <Own Surname (ST)> & <Surname Prefix From Partner/Spouse (ST)> & <Surname From Partner/Spouse (ST)>

Subcomponents for Assigning Authority (HD): <Namespace ID (IS)> & <Universal ID (ST)> & <Universal ID Type (ID)>

Subcomponents for Assigning Facility (HD): <Namespace ID (IS)> & <Universal ID (ST)> & <Universal ID Type (ID)>

Subcomponents for Name Context (CE): <Identifier (ST)> & <Text (ST)> & <Name of Coding System (ID)> & <Alternate Identifier (ST)> & <Alternate Text (ST)> & <Name of Alternate Coding System (ID)>

Subcomponents for DEPRECATED-Name Validity Range (DR): <Range Start Date/Time (TS)> & <Range End Date/Time (TS)>

Note subcomponent contains sub-subcomponents

Subcomponents for Effective Date (TS): <Time (DTM)> & <DEPRECATED-Degree of Precision (ID)>

Subcomponents for Expiration Date (TS): <Time (DTM)> & <DEPRECATED-Degree of Precision (ID)>

Subcomponents for Assigning Jurisdiction (CWE): <Identifier (ST)> & <Text (ST)> & <Name of Coding System (ID)> & <Alternate Identifier (ST)> & <Alternate Text (ST)> & <Name of Alternate Coding System (ID)> & <Coding System Version ID (ST)> & <Alternate Coding System Version ID (ST)> & <Original Text (ST)>

Subcomponents for Assigning Agency or Department (CWE): <Identifier (ST)> & <Text (ST)> & <Name of Coding System (ID)> & <Alternate Identifier (ST)> & <Alternate Text (ST)> & <Name of Alternate Coding System (ID)> & <Coding System Version ID (ST)> & <Alternate Coding System Version ID (ST)> & <Original Text (ST)>

Definition: This field identifies the people who are to receive copies of the results. By local convention, either the ID number or the name may be absent. The department name or hospital ward can be specified as the address of the report in this field.

**3.6.12 OBR-29 Parent (EIP) 00261**

Components: <Placer Assigned Identifier (EI)> ^ <Filler Assigned Identifier (EI)>

Subcomponents for Placer Assigned Identifier (EI): <Entity Identifier (ST)> & <Namespace ID (IS)> & <Universal ID (ST)> & <Universal ID Type (ID)>

Subcomponents for Filler Assigned Identifier (EI): <Entity Identifier (ST)> & <Namespace ID (IS)> & <Universal ID (ST)> & <Universal ID Type (ID)>

Definition: This field is identical to *ORC-8-parent*. However, the OBR-36 included in ORU message (the patient / result arrival notification) is same as ORC-2 (and ORC-3) in the OMG message. It is required when the order is a child. The field has two components. The first component includes the patient's Placer Order Number. The second component is

an option, including the patient's Filler Order Number. The field has accessory components consisting of Placer Order Number and Filler Order Number.

### **3.6.13 OBR-37    Number of Sample Containers    (NM)    01028**

Definition: This field identifies the number of containers for a given sample. This field is not used in endoscopy.

### **3.6.14 OBR-38    Transport Logistics of Collected Sample    (CE)    01029**

Definition: This field is the means by which a sample reaches the diagnostic service provider. This field is not used in endoscopy.

### **3.6.15 OBR-39    Collector's Comment    (CE)    01030**

Definition: This field is for reporting additional comments related to the sample. This field is not used in endoscopy.

### **3.6.16 OBR-44    Procedure Code    (CE)    00393**

In Endoscopy, this field is used to send the CPT code of the performed procedure.

### **3.6.17 OBR-46    Placer Supplemental Service Information    (CE)    01474**

Components: <Identifier (ST)> ^ <Text (ST)> ^ <Name of Coding System (ID)> ^ <Alternate Identifier (ST)> ^ <Alternate Text (ST)> ^ <Name of Alternate Coding System (ID)>

Definition: This field contains supplemental service information sent from the placer system to the filler system for the universal procedure code reported in *OBR-4 Universal Service ID*. This field will be used to provide ordering information detail that is not available in other, specific fields in the OBR segment. Multiple supplemental service information elements may be reported. Refer to [User-defined Table 0411 - Supplemental service information values](#).

This field can be used to describe details such as whether study is to be done on the right or left, for example where the study is of the arm and the order master file does not distinguish right from left or whether the study is to be done with or without contrast (when the order master file does not make such distinctions).

In Endoscopy, it is recommended that types and organs should be encoded into OBR-4 Universal Service ID.

## **3.7 OBX**

The OBX segment is used to transmit a single observation or observation fragment. It represents the smallest indivisible unit of a report. The OBX segment can also contain encapsulated data, e.g., a CDA document or a DICOM image.

Its principal mission is to carry information about observations in report messages. But the OBX can also be part of an observation order (see Section 4.4, "Order Message Definitions"). In this case, the OBX carries clinical information needed by the filler to interpret the observation the filler makes.

Examples of comments for observation results.

Comments including supplements to study materials, methodology and results as well as explanations of reasons for items unstudied should be described in the OBX following observation result OBX. The value type of the comment is typically set to “ST” or “TX,” but the value type may be “CE (comment type)” by the agreement between two parties when it is only manageable/possible with the comment code. Use of free text with the fewest bars to the adding of comment contents is recommended.

HL7 Attribute Table – OBX – Observation/Result

| SEQ | LEN                    | DT         | OPT | RP/#           | TBL#                 | ITEM# | ELEMENT NAME                      |
|-----|------------------------|------------|-----|----------------|----------------------|-------|-----------------------------------|
| 1   | 4                      | SI         | O   |                |                      | 00569 | Set ID – OBX                      |
| 2   | 2                      | ID         | C   |                | 0125                 | 00570 | Value Type                        |
| 3   | 250                    | CE         | R   |                |                      | 00571 | Observation Identifier            |
| 4   | 20                     | ST         | C   |                |                      | 00572 | Observation Sub-ID                |
| 5   | 9999<br>g <sup>1</sup> | varie<br>s | C   | Y <sup>2</sup> |                      | 00573 | Observation Value                 |
| 6   | 250                    | CE         | O   |                |                      | 00574 | Units                             |
| 7   | 60                     | ST         | N   |                |                      | 00575 | References Range                  |
| 8   | 5                      | IS         | O   | Y              | 0078                 | 00576 | Abnormal Flags                    |
| 9   | 5                      | NM         | N   |                |                      | 00577 | Probability                       |
| 10  | 2                      | ID         | N   | Y              |                      | 00578 | Nature of Abnormal Test           |
| 11  | 1                      | ID         | R   |                | <a href="#">0085</a> | 00579 | Observation Result Status         |
| 12  | 26                     | TS         | O   |                |                      | 00580 | Effective Date of Reference Range |
| 13  | 20                     | ST         | O   |                |                      | 00581 | User Defined Access Checks        |
| 14  | 26                     | TS         | O   |                |                      | 00582 | Date/Time of the Observation      |
| 15  | 250                    | CE         | O   |                |                      | 00583 | Producer's ID                     |
| 16  | 250                    | XCN        | O   | Y              |                      | 00584 | Responsible Observer              |
| 17  | 250                    | CE         | N   | Y              |                      | 00936 | Observation Method                |
| 18  | 22                     | EI         | O   | Y              |                      | 01479 | Equipment Instance Identifier     |
| 19  | 26                     | TS         | N   |                |                      | 01480 | Date/Time of the Analysis         |

### 3.7.0 OBX field definitions

See HL7 Ver2.5 Section 7.4.2 “OBX-Observation/Result Segment”.

#### 3.7.1 OBX-1 Set ID - OBX (SI) 00569

Definition: Serial number from 1 is set in the same OBR segment.

#### 3.7.2 OBX-3 Observation Identifier (CE) 00571

Components: <Identifier (ST)> ^ <Text (ST)> ^ <Name of Coding System (ID)> ^ <Alternate Identifier (ST)> ^ <Alternate Text (ST)> ^ <Name of Alternate Coding System (ID)>

Definition: This field contains a unique identifier for the observation.

<sup>1</sup> The length of the observation field is variable, depending upon value type. See *OBX-2 value type*.

<sup>2</sup> May repeat for multipart, single answer results with appropriate data types, e.g., CE, TX, and FT data types.

In most systems the identifier will **point** to a master observation table that will provide other attributes of the observation that may be used by the receiving system to process the observations it receives. The relation of an observation ID to a master observation table is analogous to the relationship between a charge code (in a billing record) and the charge master.

### 3.7.3 OBX-4 Observation Sub-ID (ST) 00572

**Definition:** This field is used to distinguish between multiple OBX segments with the same observation ID organized under one OBR. For example, a chest X-ray report might include three separate diagnostic impressions. The standard requires three OBX segments, one for each impression. By putting a 1 in the Sub-ID of the first of these OBX segments, 2 in the second, and 3 in the third, we can uniquely identify each OBX segment for editing or replacement.

The sub-identifier is also used to group related components in reports such as surgical pathology. It is traditional for surgical pathology reports to include all the tissues taken from one surgical procedure in one report. Consider, for example, a single surgical pathology report that describes the examination of gallbladder and appendix tissue. This report would be transmitted roughly as shown in Figure 3-1.

**Figure 3-1. Example of sub-identifier usage**

```
OBR|1||1234^LAB|88304&SURG PATH REPORT|...<cr>
OBX|1|CE|88304&ANT|1|T57000^GALLBLADDER^SNM|...<cr>
OBX|2|TX|88304&GDT|1|THIS IS A NORMAL GALLBLADDER|...<cr>
OBX|3|TX|88304&MDT|1|MICROSCOPIC EXAM SHOWS HISTOLOGICALLY
    NORMAL GALLBLADDER TISSUE|...<cr>
OBX|4|CE|88304&IMP|1|M-00100^NML^SNM|...<cr>
OBX|5|CE|88304&ANT|2|T66000^APPENDIX^SNM|...<cr>
OBX|6|TX|88304&GDT|2|THIS IS A RED, INFLAMED, SWOLLEN, BOGGY APPENDIX|...<cr>
OBX|7|TX|88304&MDT|2|INFILTRATION WITH MANY PMN's - INDICATING INFLAMMATORY
    CHANGE|...<cr>
OBX|8|CE|88304&IMP|2|M-40000^INFLAMMATION NOS^SNM|...<cr>
```

The example in Figure 3-1 has two segments for each component of the report, one for each of the two tissues. Thus, there are two 88304&ANT segments; there are two 88304&GDT segments, and there are two 88304&MDT segments. Segments that apply to the gallbladder all have the sub-identifier 1. Segments that apply to the appendix all have sub-identifier 2.

### 3.7.4 OBX-5 Observation Value (varies) 00573

**Definition:** This field contains the value observed by the observation producer. *OBX-2-value type* contains the data type for this field according to which observation value is formatted. It is not a required field because some systems will report only the normalcy/abnormalcy (*OBX-8*), especially in product experience reporting. The length of the observation field is variable, depending upon *OBX-3-value type*. This field may repeat for multipart, single answer results with appropriate data types, e.g., CE, TX, and FT data types.

#### Representation

This field contains the value of *OBX-3-observation identifier* of the same segment. Depending upon the observation, the data type may be a number (e.g., a respiratory rate), a coded answer (e.g., a pathology impression recorded as SNOMED), or a date/time (the date/time that a unit of blood is sent to the ward). An observation value is always represented as the data type specified in *OBX-2-value type* of the same segment. Whether numeric or short text, the answer shall be recorded in ASCII text.

When the observation results are presented in numeric values with comparative operators or postfix, note that the description can be different between “ST”(String) and “SN”(Structured Numeric) value types. For

example, “>100”” 2+” in ST type can be described “>^100”” ^2^+” in SN type. When possible, SN type should be chosen.

#### Reporting logically independent observations

The main sections of dictated reports, such as endoscopic studies or history and physicals, are reported as separate OBX segments. In addition, each logically independent observation should be reported in a separate OBX segment, i.e. one OBX segment should not contain the **result** of more than one logically independent observation. This requirement is included to assure that the contents of *OBX-6-units*, *OBX-8-abnormal flags*, and *OBX-9-probability* can be interpreted unambiguously. The electrolytes and vital signs batteries, for example, would each be reported as four separate OBX segments. Two diagnostic impressions, e.g., congestive heart failure and pneumonia, would also be reported as two separate OBX segments whether reported as part of a discharge summary or chest X-ray report. Similarly, two bacterial organisms isolated in a single bacterial culture would be reported as two separate OBX segments.

Though two independent diagnostic **statements** cannot be reported in one OBX segment, multiple categorical responses are allowed (usually as CE data types separated by repeat delimiters), so long as they are fragments (modifiers) that together construct one diagnostic statement. Right upper lobe (recorded as one code) and pneumonia (recorded as another code), for example, could be both reported in one OBX segment. Such multiple “values” would be separated by repeat delimiters.

#### Multiple OBX segments with the same observation ID and Sub ID

In some systems, a single observation may include **fragments** of more than one data type. The most common example is a numeric result followed by coded comments (CE). In this case, the logical observation can be sent in more than one OBX segment. For example, one segment of numeric or string data type for the numeric result and another segment of CE data type for coded comments. If the producer was reporting multiple coded comments they would all be sent in one OBX segment separated by repeat delimiters because they all modified a single logical observation. Multiple OBX segments with the same observation ID and sub ID should always be sent in sequence with the most significant OBX segment (the one that has the normal flag/units and or reference range and status flag) first. The value of *OBX-6 through 12* should be null in any following OBX segments with the same *OBX-3-observation identifier* and *OBX-4-observation sub-ID*. For the purpose of replacement or deletion, multiple OBX segments with the same observation ID and sub ID are treated as a unit. If any are replaced or deleted, they all are replaced.

#### Coded values

When an OBX segment contains values of CE data types, the observations are stored as a combination of codes and/or text. In HL7 Section 7.8.3, “エラー! 参照元が見つかりません。” examples of results that are represented as CE data types are shown in the first and second OBX segments of OBR 1 and the first and second OBX segments of OBR 2. The observation may be an observation battery ID (for recommended studies), a diagnostic code or finding (for a diagnostic impression), or an anatomic site for a pathology report, or any of the other kinds of coded results.

It is not necessary to always encode the information stored within a coded observation. For example, a chest X-ray impression could be transmitted as pure text even though it has a CE data type. In this case, the test must be recorded as the second component of the **result code**, e.g.,

```
OBX|1|CE|71020&IMP|1|^CONGESTIVE HEART FAILURE. |...<cr>
```

However, separate impressions, recommendations, etc., even if recorded as pure text, should be recorded in separate result segments. That is, congestive heart failure and pneumonia should not be sent as:

```
OBX|1|CE|71020&IMP|1|^CONGESTIVE HEART FAILURE AND PNEUMONIA|...<cr>
```

but as:

```
OBX|1|CE|71020&IMP|1|^CONGESTIVE HEART FAILURE|...<cr>
```

```
OBX|2|CE|71020&IMP|2|^PNEUMONIA|...<cr>
```

Even better would be fully-coded results that include computer understandable codes (component 1) instead of, or in addition to, the text description (component 2). One may include multiple values in a CE value and these can be mixtures of code and text, but only when they are needed to construct one diagnosis, impression, or concept. When text follows codes as an independent value it would be taken as a modifier or addenda to the codes. E.g.,

```
OBX|1|CE|710120&IMP^CXR|1|428.0^CONGESTIVE HEART FAILURE^I9C~^MASSIVE HEART|...<cr>
```

The text in component 2 should be an accurate description of the code in component 1. Likewise, if used, the text in component 5 should be an accurate description of the code in component 4.

Insertion of CDA within an OBX:

CDA documents are to be exchanged in the OBX segment. The value of *OBX-2-Value Type* should be set to 'ED'. *OBX-5-Observation Value* contains the MIME package encoded as an encapsulated data type. The components should be valued as follows:

- Set the value of *OBX-5.2-Type of Data* to 'multipart'.
- Set the value of *OBX-5.3-Data Subtype* to 'x-hl7-cda-level-one'
- Set the value of *OBX-5.4-Encoding* to 'A'. (Note that a MIME package is not itself Base64-encoded. Rather entities within the MIME package are Base64-encoded. A MIME package is sent as ASCII text. Therefore, the correct value is 'A' not 'Base64'.
- Set the value of *OBX-5.5-Data* to equal the MIME package. Every entity within the MIME package must be Base64-encoded. As stated in Chapter 2, "the data component must be scanned before transmission for HL7 delimiter characters (and other non-printing ASCII or non-ASCII characters such as LineFeed), and any found must be escaped by using the HL7 escape sequences defined in HL7 Section 2.7 'Use of escape sequences in text fields'. On the receiving application, the data field must be de-escaped after being parsed". As a result, CR/LF sequences required in the MIME package need to be escaped (i.e., converted to '\X0D0A\') prior to transmission. The content type of the first MIME entity is set to 'application/x-hl7-cda-level-one+xml', and should contain the CDA document itself. Multimedia objects referenced by the CDA document that need to be transmitted within the CDA document are to be placed in successive entities of the MIME package.

### 3.7.5 OBX-7 References Range (ST) 00575

Definition: When the observation quantifies the amount of a toxic substance, then the upper limit of the range identifies the toxic limit. This field is not used in endoscopy.

### 3.7.6 OBX-8 Abnormal Flags (IS) 00576

Definition: This field contains a table lookup indicating the normalcy status of the result. It is used as a flag to draw attention to the normality or otherwise of observation results.

### 3.7.7 OBX-9 Probability (NM) 00577

Definition: This field contains the probability of a result being true for results with categorical values. This field is not used in endoscopy.

**3.7.8 OBX-10 Nature of abnormal test (ID) 00578**

Definition: This field contains the nature of the abnormal test. This field is not used in endoscopy.

**3.7.9 OBX-11 Observation Result Status (ID) 00579**

Definition: This field contains the observation result status. Refer to [HL7 table 0085 - Observation result status codes interpretation](#) for valid values. This field reflects the current completion status of the results for one Observation Identifier.

The status of O shall be used to indicate that the OBX segment is used for a dynamic specification of the required result. An OBX used for a dynamic specification must contain the detailed examination code, units, etc., with *OBX-11* valued with O, and *OBX-2* and *OBX-5* valued with null.

In Endoscopy, only the value "O" is used in the observation order message. However, the value "F" is used even in the observation order message for the information required for the observation, such as profile information, to indicate that it is information based on a performed observation.

HL7 Table 0085 - Observation result status codes interpretation

| Value | Description   | Comment |
|-------|---|---------|
| C     | Record coming over is a correction and thus replaces a final result   |         |
| D     | Deletes the OBX record  |         |
| F     | Final results; Can only be changed with a corrected result.   |         |
| I     | Specimen in lab; results pending  |         |
| N     | Not asked; used to affirmatively document that the observation identified in the OBX was not sought when the universal service ID in OBR-4 implies that it would be sought. |         |
| O     | Order detail description only (no result)   |         |
| P     | Preliminary results   |         |
| R     | Results entered -- not verified   |         |
| S     | Partial results   |         |
| X     | Results cannot be obtained for this observation   |         |
| U     | Results status change to final without retransmitting results already sent as 'preliminary.'<br>E.g., radiology changes status from preliminary to final                    |         |
| W     | Post original as wrong, e.g., transmitted for wrong patient   |         |

**3.7.10 OBX-12 Effective Date of Reference Range (TS) 00580**

Definition: This field contains the date (and, optionally, the time) on which the values in [OBX-7-reference range](#) went into effect. This field is not used in endoscopy.

**3.7.11 OBX-13 User Defined Access Checks (ST) 00581**

Definition: This field permits the producer to record results-dependent codes for classifying the observation at the receiving system. This field is not used in endoscopy.

**3.7.12 OBX-14 Date/Time of the Observation (TS) 00582**

Components: <Time (DTM)> ^ <DEPRECATED-Degree of Precision (ID)>

Definition: In endoscopy, the observation date-time is the date-time that the observation was performed.

**3.7.13 OBX-17 Observation Method (CE) 00936**

This optional field can be used to transmit the method or procedure by which an observation was obtained when the sending system wishes to distinguish among one measurement obtained by different methods and the distinction is not implicit in the test ID. This field is not used in endoscopy.

**3.7.14 OBX-19 Date/Time of the Analysis (TS) 01480**

Definition: This field is used to transfer the time stamp associated with generation of the analytical result by the instrument specified in Equipment Instance Identifier (see above). This field is not used in endoscopy.

**3.8 TQ1**

The TQ1 segment is used to specify the complex timing of events and actions such as those that occur in order management and scheduling systems. This segment determines the quantity, frequency, priority, and timing of a service. By allowing the segment to repeat, it is possible to have service requests that vary the quantity, frequency and priority of a service request over time.

The TQ1 segment is a required segment in endoscopy order. It describes priority of the order.

HL7 Attribute Table – TQ1 – Timing/Quantity

| SEQ | LEN | DT  | OPT | RP/# | TBL#                 | ITEM# | ELEMENT NAME            |
|-----|-----|-----|-----|------|----------------------|-------|-------------------------|
| 1   | 4   | SI  | O   |      |                      | 01627 | Set ID - TQ1            |
| 2   | 20  | CQ  | O   |      |                      | 01628 | Quantity                |
| 3   | 540 | RPT | O   | Y    | 0335                 | 01629 | Repeat Pattern          |
| 4   | 20  | TM  | O   | Y    |                      | 01630 | Explicit Time           |
| 5   | 20  | CQ  | O   | Y    |                      | 01631 | Relative Time and Units |
| 6   | 20  | CQ  | O   |      |                      | 01632 | Service Duration        |
| 7   | 26  | TS  | O   |      |                      | 01633 | Start date/time         |
| 8   | 26  | TS  | O   |      |                      | 01634 | End date/time           |
| 9   | 250 | CWE | R   | Y    | <a href="#">0485</a> | 01635 | Priority                |
| 10  | 250 | TX  | O   |      |                      | 01636 | Condition text          |
| 11  | 250 | TX  | O   |      |                      | 01637 | Text instruction        |
| 12  | 10  | ID  | C   |      | 0427                 | 01638 | Conjunction             |
| 13  | 20  | CQ  | O   |      |                      | 01639 | Occurrence duration     |
| 14  | 10  | NM  | O   |      |                      | 01640 | Total occurrence's      |

**3.8.0 TQ1 field definitions**

See HL7 Ver2.5 Section 4.5.4 “TQ1-Timing/Quantity Segment”.

**3.8.1 TQ1-9 Priority (CWE) 01635**

Components: <Identifier (ST)> ^ <Text (ST)> ^ <Name of Coding System (ID)> ^ <Alternate Identifier (ST)> ^ <Alternate Text (ST)> ^ <Name of Alternate Coding System (ID)> ^ <Coding System Version ID (ST)> ^ <Alternate Coding System Version ID (ST)> ^ <Original Text (ST)>

Definition: This field describes the urgency of the request. The priority values are shown as follows. If the priority is not specified, the default R should necessarily be assigned.

Example

R  
S^Emergency

User-Defined Table 0485 – Extended Priority Codes

| Value       | Description     | Comment   |
|-------------|-----------------|---|
| S           | Stat            | With highest priority   |
| A           | ASAP            | Fill after S orders   |
| R           | Routine         | Default   |
| P           | Preop           |   |
| C           | Callback        |   |
| T           | Timing critical | A request implying that it is critical to come as close as possible to the requested time, e.g., for a trough anti-microbial level. |
| TS<integer> |                 | Timing critical within <integer> seconds.   |
| TM<integer> |                 | Timing critical within <integer> minutes.   |
| TH<integer> |                 | Timing critical within <integer> hours.   |
| TD<integer> |                 | Timing critical within <integer> days.  |
| TW<integer> |                 | Timing critical within <integer> weeks.   |
| TL<integer> |                 | Timing critical within <integer> months.  |
| PRN         | As needed       |   |

### 3.9 IPC

The IPC segment contains information about tasks that need to be performed in order to fulfill the request for imaging service. The information includes location, type and instance identification of equipment (acquisition modality) and stages (procedure steps).

HL7 Attribute Table – IPC – Imaging Procedure Control Segment

| SEQ | LEN | DT | OPT | RP/# | TBL# | ITEM # | ELEMENT NAME                      |
|-----|-----|----|-----|------|------|--------|-----------------------------------|
| 1   | 80  | EI | R   |      |      | 01330  | Accession Identifier              |
| 2   | 22  | EI | R   |      |      | 01658  | Requested Procedure ID            |
| 3   | 70  | EI | R   |      |      | 01659  | Study Instance UID                |
| 4   | 22  | EI | R   |      |      | 01660  | Scheduled Procedure Step ID       |
| 5   | 16  | CE | O   |      |      | 01661  | Modality                          |
| 6   | 250 | CE | O   | Y    |      | 01662  | Protocol Code                     |
| 7   | 22  | EI | O   |      |      | 01663  | Scheduled Station Name            |
| 8   | 250 | CE | O   | Y    |      | 01664  | Scheduled Procedure Step Location |
| 9   | 16  | ST | O   |      |      | 01665  | Scheduled AE Title                |

#### 3.9.0 IPC field definitions

See HL7 Ver2.5 Section 4.5.6 “IPC-Imaging Procedure Control Segment”.

### 3.9.1 IPC-1 Accession Identifier (EI) 01330

Components: <Entity Identifier (ST)> ^ <Namespace ID (IS)> ^ <Universal ID (ST)> ^ <Universal ID Type (ID)>

Definition: A workflow-management EOF generated number that identifies the Filler Order for an Imaging Service (Imaging Service Request). This identifier corresponds one-to-one to the Order Filler number but is used in internal tracking of the work by the EOF and in communication between EOF within the department. It also has specific requirements to assure its compatibility with DICOM. It is a case of the Entity Identifier data type (Section 2.A.28). Its first component is a string that identifies the Imaging Service Request. A limit of sixteen (16) characters is required to allow compatibility with DICOM. See DICOM Standard Part 3 for further details on DICOM Attribute (0008,0050) that conveys information identical to the component one of this field.

### 3.9.2 IPC-2 Requested Procedure ID (EI) 01658

Components: <Entity Identifier (ST)> ^ <Namespace ID (IS)> ^ <Universal ID (ST)> ^ <Universal ID Type (ID)>

Definition: This field is the identifier of the Requested Procedure that the workflow management EOF selected to perform as a part of the order for the imaging service. The first component of this field is a string that identifies the Requested Procedure. A limit of sixteen (16) characters is required to allow compatibility with DICOM. This string must uniquely identify the Requested Procedure within the scope of the order (as specified by accession number). This uniqueness must persist over time. See DICOM Standard Part 3 for further details on DICOM Attribute (0040,0001) that conveys information identical to the component one of this field.

The second through fourth components contain the ID of the workflow management EOF, in the form of the HD data type (see Section 2.A.36, "HD - hierarchic designator"). The second component is a user-defined coded value that uniquely defines the application from other applications on the network. A limit of five (5) characters is suggested but not required. The second component of the Requested Procedure number always identifies the actual filler of an order.

### 3.9.3 IPC-3 Study Instance UID (EI) 01659

Components: <Entity Identifier (ST)> ^ <Namespace ID (IS)> ^ <Universal ID (ST)> ^ <Universal ID Type (ID)>

Definition: Globally unique identifier assigned by the workflow management EOF to the Imaging Study under which all images and other DICOM objects produced in the course of the Requested Procedure shall be collected. It is a case of the Entity Identifier data type (Section 2.A.28). Its first component is a string that identifies the Study. A limit of sixty-four (64) characters is required to allow compatibility with DICOM. See DICOM Standard Part 3 for further details on DICOM Attribute (0020,000D) that conveys information identical to component one of this field. The second through fourth components contain the ID of the workflow management EOF, in the form of the HD data type (see Section 2.A.36, "HD - hierarchic designator"). The second component is a user-defined coded value that uniquely defines the application from other applications on the network. A limit of five (5) characters is suggested but not required. The second component of the Study Instance UID always identifies the actual filler of an order.

### 3.9.4 IPC-4 Scheduled Procedure Step ID (EI) 01660

Components: <Entity Identifier (ST)> ^ <Namespace ID (IS)> ^ <Universal ID (ST)> ^ <Universal ID Type (ID)>

Definition: This field is the identifier of a particular Procedure Step (sub-procedure) of the Requested Procedure that the workflow management EOF selected to perform as a part of the order for imaging service. It is a case of the Entity Identifier data type (Section 2.A.28). Its first component is a string that identifies the

**Procedure Step.** A limit of sixteen (16) characters is required to allow compatibility with DICOM. This string must uniquely identify the Procedure Step within the scope of the Requested Procedure. This uniqueness must persist over time. See DICOM Standard Part 3 for further details on DICOM Attribute (0040,0009) that conveys information identical to the component one of this field.

The second through fourth components contain the ID of the workflow management EOF, in the form of the HD data type (see Section 2.A.36, "HD - hierarchic designator"). The second component is a user-defined coded value that uniquely defines the application from other applications on the network. A limit of five (5) characters is suggested but not required. The second component of the Requested Procedure number always identifies the actual filler of an order.

### 3.10MSA

The MSA segment contains information sent while acknowledging another message.

HL7 Attribute Table - MSA - Message Acknowledgment

| SEQ | LEN | DT | OPT | RP/# | TBL# | ITEM # | ELEMENT NAME                |
|-----|-----|----|-----|------|------|--------|-----------------------------|
| 1   | 2   | ID | R   |      | 0008 | 00018  | Acknowledgment Code         |
| 2   | 20  | ST | R   |      |      | 00010  | Message Control ID          |
| 3   | 80  | ST | B   |      |      | 00020  | Text Message                |
| 4   | 15  | NM | O   |      |      | 00021  | Expected Sequence Number    |
| 5   |     |    | W   |      |      | 00022  | Delayed Acknowledgment Type |
| 6   | 250 | CE | B   |      | 0357 | 00023  | Error Condition             |

#### 3.10.0 MSA field definitions

See HL7 Ver2.5 Section 2.15.8 "MSA-Message Acknowledgment Segment".

### 3.11ERR

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

HL7 Attribute Table - ERR –Error

| SEQ | LEN  | DT  | OPT | RP/# | TBL# | ITEM # | ELEMENT NAME                |
|-----|------|-----|-----|------|------|--------|-----------------------------|
| 1   | 493  | ELD | B   | Y    |      | 00024  | Error Code and Location     |
| 2   | 18   | ERL | O   | Y    |      | 01812  | Error Location              |
| 3   | 705  | CWE | R   |      | 0357 | 01813  | HL7 Error Code              |
| 4   | 2    | ID  | R   |      | 0516 | 01814  | Severity                    |
| 5   | 705  | CWE | O   |      | 0533 | 01815  | Application Error Code      |
| 6   | 80   | ST  | O   | Y/10 |      | 01816  | Application Error Parameter |
| 7   | 2048 | TX  | O   |      |      | 01817  | Diagnostic Information      |
| 8   | 250  | TX  | O   |      |      | 01818  | User Message                |
| 9   | 20   | IS  | O   | Y    | 0517 | 01819  | Inform Person Indicator     |
| 10  | 705  | CWE | O   |      | 0518 | 01820  | Override Type               |
| 11  | 705  | CWE | O   | Y    | 0519 | 01821  | Override Reason Code        |
| 12  | 652  | XTN | O   | Y    |      | 01822  | Help Desk Contact Point     |

### 3.11.0 ERR field definition

See HL7 Ver2.5 Section 2.15.5 “ERR-Error Segment”.

### 3.12TXA

The TXA segment contains information specific to a transcribed document but does not include the text of the document. The message is created as a result of a document status change. This information updates other healthcare systems and allows them to identify reports that are available in the transcription system. By maintaining the TXA message information in these systems, the information is available when constructing queries to the transcription system requesting the full document text.

HL7 Attribute Table – TXA – Transcription Document Header

| SEQ | LEN | DT  | OPT | RP/# | TBL# | ITEM# | ELEMENT NAME                                     |
|-----|-----|-----|-----|------|------|-------|--|
| 1   | 4   | SI  | R   |      |      | 00914 | Set ID- TXA                                      |
| 2   | 30  | IS  | R   |      | 0270 | 00915 | Document Type                                    |
| 3   | 2   | ID  | C   |      | 0191 | 00916 | Document Content Presentation                    |
| 4   | 26  | TS  | O   |      |      | 00917 | Activity Date/Time                               |
| 5   | 250 | XCN | C   | Y    |      | 00918 | Primary Activity Provider Code/Name              |
| 6   | 26  | TS  | O   |      |      | 00919 | Origination Date/Time                            |
| 7   | 26  | TS  | C   |      |      | 00920 | Transcription Date/Time                          |
| 8   | 26  | TS  | O   | Y    |      | 00921 | Edit Date/Time                                   |
| 9   | 250 | XCN | O   | Y    |      | 00922 | Originator Code/Name                             |
| 10  | 250 | XCN | O   | Y    |      | 00923 | Assigned Document Authenticator                  |
| 11  | 250 | XCN | C   | Y    |      | 00924 | Transcriptionist Code/Name                       |
| 12  | 30  | EI  | R   |      |      | 00925 | Unique Document Number                           |
| 13  | 30  | EI  | C   |      |      | 00926 | Parent Document Number                           |
| 14  | 22  | EI  | O   | Y    |      | 00216 | Placer Order Number                              |
| 15  | 22  | EI  | O   |      |      | 00217 | Filler Order Number                              |
| 16  | 30  | ST  | O   |      |      | 00927 | Unique Document File Name                        |
| 17  | 2   | ID  | R   |      | 0271 | 00928 | Document Completion Status                       |
| 18  | 2   | ID  | O   |      | 0272 | 00929 | Document Confidentiality Status                  |
| 19  | 2   | ID  | O   |      | 0273 | 00930 | Document Availability Status                     |
| 20  | 2   | ID  | O   |      | 0275 | 00932 | Document Storage Status                          |
| 21  | 30  | ST  | C   |      |      | 00933 | Document Change Reason                           |
| 22  | 250 | PPN | C   | Y    |      | 00934 | Authentication Person, Time Stamp                |
| 23  | 250 | XCN | O   | Y    |      | 00935 | Distributed Copies (Code and Name of Recipients) |

### 3.12.0 TXA Field Definitions

See HL7 Ver2.5 Section 9.6.1 “TXA-Transcription Document Header Segment”.

### 3.13 ZE1 - Performed Data Segment

The ZE1 segment is information relating to implementation of the endoscopy including “Procedure Information”, “Healthcare Practitioner Information”, and “Material Information”. When multiple instances of performed data arise for a single observation order, multiple ZE1 segments will be present.

Attribute Table – ZE1- Performed Data Segment

| SEQ | LEN  | DT  | OPT | RP/# | ITEM# | ELEMENT NAME  |
|-----|------|-----|-----|------|-------|---|
| 1   | 4    | SI  | R   |      | ZE001 | Set ID  |
| 2   | 20   | IS  | R   |      | ZE002 | Control code Scheduled/Performed                                      |
| 3   | 483  | CWE | R   |      | ZE003 | Procedure   |
| 4   | 16   | NM  | O   |      | ZE004 | Number of procedures  |
| 5   | 483  | CWE | O   |      | ZE005 | Supplemental billing information                                      |
| 6   | 292  | JCC | N   |      | ZE006 | Healthcare practitioner category Physician/Endoscopy technician/Nurse |
| 7   | 3002 | XCN | O   | Y    | ZE007 | Healthcare practitioner   |
| 8   | 20   | IS  | N   |      | ZE008 | Material category Drug/Instrument/Material                            |
| 9   | 250  | ZRD | N   | Y    | ZE009 | Material used   |
| 10  | 850  | XTN | O   |      | ZE010 | Contact information   |
| 11  | 199  | ST  | O   |      | ZE011 | Implementation field  |
| 12  | 199  | ST  | O   |      | ZE012 | Accounting field  |

#### 3.13.0 ZE1 Field Definitions

##### 3.13.1 ZE1-1 Set ID (SI) ZE001

Definition: Specifies the serial number from 1 given to ZE1 segments in the same group.

Note: It is not a serial number for each message.

##### 3.13.2 ZE1-2 Control code (IS) ZE002

Definition: Specifies the classification that indicates whether the implementation information is for a scheduled observation or one already performed.

【Endoscope】 Mainly used for RS (results) only.

Table Control code

| Value | Description | Comment |
|-------|-------------|---------|
| PL    | Scheduled   |         |
| RS    | Results     |         |

##### 3.13.3 ZE1-3 Procedure (CWE) ZE003

Definition: Specifies procedures used to implement the endoscopy.

Example: In response to an order for routine upper GI endoscopy with biopsy collection, if biopsy

collection was performed from the esophagus and stomach, different values can be set for each in two ZE1 segments.

#### **3.13.4 ZE1-4 Number of procedures (NM) ZE004**

Definition: Specifies the number of procedures specified in ZE1-3.

#### **3.13.5 ZE1-5 Supplemental billing information (CWE) ZE005**

Definition: Specifies the supplemental billing information.

【ENDOSCOPY】This field is not used for endoscopy.

#### **3.13.6 ZE1-6 Healthcare practitioner category (JCC) ZE006**

Definition: Specifies the job title and employment status of the healthcare practitioners involved.

【ENDOSCOPY】This field is not used for endoscopy.

#### **3.13.7 ZE1-7 Healthcare practitioner (XCN) ZE007**

Definition: Specifies the names of the health practitioners involved. Written as a set with the health practitioner category. Repetition is possible.

【ENDOSCOPY】This field is not used for endoscopy.

#### **3.13.8 ZE1-8 Material category (IS) ZE008**

Definition: Specifies the category of materials used for the observation.

【ENDOSCOPY】This field is not used for endoscopy.

#### **3.13.9 ZE1-9 Material used (ZRD) ZE009**

Definition: Specifies the materials used for the observation.

【ENDOSCOPY】This field is not used for endoscopy.

#### **3.13.10 ZE1-10 Contact information (XTN) ZE010**

Definition: Specifies the contact information.

#### **3.13.11 ZE1-11 Implementation field (ST) ZE011**

Definition: Set comments concerning implementation.

#### **3.13.12 ZE1-12 Accounting field (ST) ZE012**

Definition: Set comments concerning accounting.

## 4 IHE Transactions

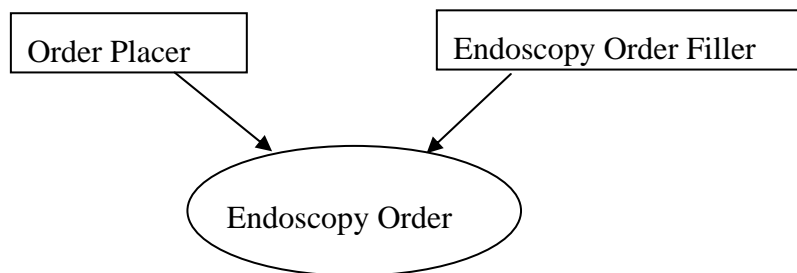
This section defines each IHE transaction in detail, specifying the standards used, the information transferred, and the conditions under which the transaction is required or optional.

### 4.1 Endoscopy Order

This section corresponds to transaction Endo-1 of the IHE Technical Framework. Transaction Endo-1 is used by the actors: Order Placer and Order Filler/Department System/Endoscopy Information System: EIS.

#### 4.1.0 Scope

This transaction used by the Order Placer to place a new order with the Order Filler. It also allows the Order Placer to cancel the order. To change order information, the Order placer would cancel the initial order and place the new one.



**Actor:** Order Placer (OP)

**Role:** Places orders. Cancels orders as necessary.

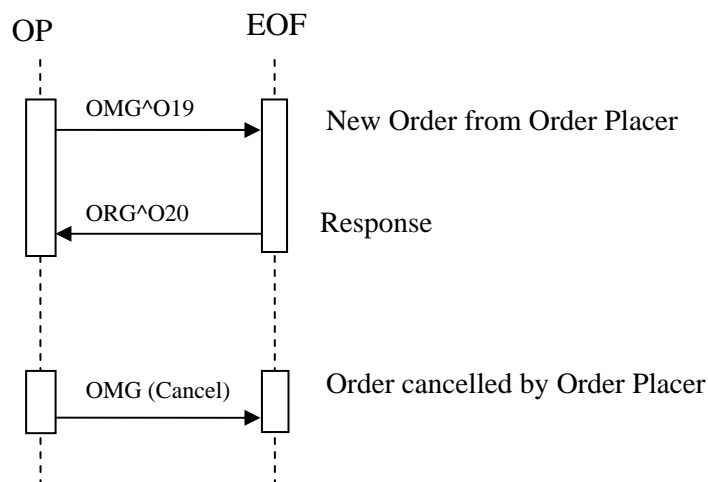
**Actor:** Endoscopy Order Filler (EOF)

**Role:** Receives and processes (fills) orders. Receives order cancellations.

#### 4.1.1 Referenced Standards

HL7 Ver2.5 Chapter 2.3

## 4.1.2 Interaction Diagram



## 4.1.3 Message Static Definitions

### 4.1.3.0 OMG^O19

The general clinical order message (OMG) is used for the endoscopy order and the general clinical order acknowledge message (ORG) is used for the response. The segment and syntax rules in this case are as follows.

| <u>OMG^O19^OMG_O19</u> | <u>General Clinical Order Message</u> | <u>Status</u> | <u>Chapter</u> |
|------------------------|---------------------------------------|---------------|----------------|
| <u>MSH</u>             | Message Header                        |               | 2              |
| [{ <u>NTE</u> }]       | Notes and Comments (for Header)       |               | 2              |
| <u>PID</u>             | Patient Identification                |               | 3              |
| [{ <u>NTE</u> }]       | Notes and Comments (for Patient ID)   |               | 2              |
| <u>PV1</u>             | Patient Visit                         |               | 3              |
| {                      | --- ORDER begin                       |               |                |
| <u>ORC</u>             | Common Order                          |               | 4              |
| {                      | --- TIMING begin                      |               |                |
| <u>TQ1</u>             | Timing/Quantity                       |               | 4              |
| }                      | --- TIMING end                        |               |                |
| <u>OBR</u>             | Observation                           |               | 4              |
| [{ <u>NTE</u> }]       | Notes and Comments (for Detail)       |               | 2              |
| [{                     | --- OBSERVATION begin                 |               |                |
| <u>OBX</u>             | Observation/Result                    |               | 7              |
| [{ <u>NTE</u> }]       | Notes and Comments (for Results)      |               | 2              |
| }]                     | --- OBSERVATION end                   |               |                |

| <u>OMG^O19^OMG_O19</u> | <u>General Clinical Order Message</u> | <u>Status</u> | <u>Chapter</u> |
|------------------------|---------------------------------------|---------------|----------------|
| }                      | --- ORDER end                         |               |                |

Note: [ ] indicates optional items, { } indicates repeatable items.

- Each order output unit (message) requires an MSH.
- PID through AL1 are optional in HL7 definition, but PID and PV1 are required in a series of orders concerning a patient in endoscopy.
- Principally, allergy information for endoscopic examination shall be described as part of the patient profile in OBX. Allergy information, which is used for contraindication information in endoscopy patients, will be described in OBX with other contraindication information (such as information regarding sample test results). This is to avoid the dispersion of contraindication information in a message.
- TQ1 is optional in the HL7 syntax, although it is required in endoscopy because it is used for priority informat

#### 4.1.3.1 ORG^O20

A general clinical order acknowledge message (O20) is an event where a response to an endoscopy order is provided.

| <u>ORG^O20^ORG_O20</u>      | <u>General Clinical Order Acknowledgment Message</u> | <u>Status</u> | <u>Chapter</u> |
|-----------------------------|--|---------------|----------------|
| <a href="#">MSH</a>         | Message Header                                       |               | 2              |
| <a href="#">MSA</a>         | Message Acknowledgment                               |               | 2              |
| [ { <a href="#">ERR</a> } ] | Error  |               | 2              |
| [ { <a href="#">NTE</a> } ] | Notes and Comments (for Header)                      |               | 2              |
| [                           | --- RESPONSE begin                                   |               |                |
| [                           | --- PATIENT begin                                    |               |                |
| <a href="#">PID</a>         | Patient Identification                               |               | 3              |
| [ { <a href="#">NTE</a> } ] | Notes and Comments (for Patient ID)                  |               | 2              |
| ]                           | --- PATIENT end                                      |               |                |
| {                           | --- ORDER begin                                      |               |                |
| <a href="#">ORC</a>         | Common Order   |               | 4              |
| [ {                         | --- TIMING begin                                     |               |                |
| <a href="#">TQ1</a>         | Timing/Quantity                                      |               | 4              |
| [ { TQ2 } ]                 | Timing/Quantity Order Sequence                       |               | 4              |
| }]                          | --- TIMING end                                       |               |                |
| [ <a href="#">OBR</a> ]     | Observation  |               | 4              |
| [ { <a href="#">NTE</a> } ] | Notes and Comments (for Detail)                      |               | 2              |
| }                           | --- ORDER end  |               |                |
| ]                           | --- RESPONSE end                                     |               |                |

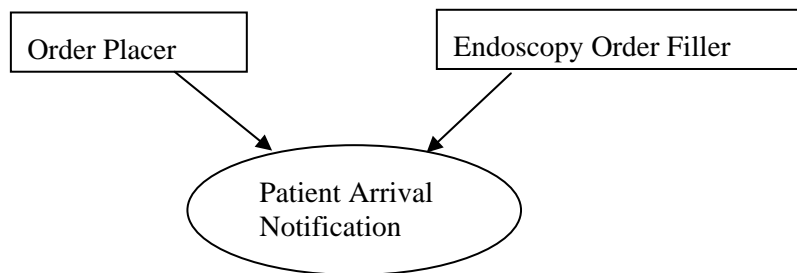
Note: [ ] indicates optional items, { } indicates repeatable items.

## 4.2 Patient Arrival Notification

This section describes transactions corresponding to the Endo-2. The Order Placer generates an order or cancels and reissues an order to the Order Filler. If this transaction is placed after an examination starts, confusion can occur in examination management. Therefore, the Order Filler notifies the Order Placer of the patient's arrival at the department in order to halt any subsequent cancellation or change in the examination order.

### 4.2.0 Scope

This transaction used by the EIS to notify the examination status (patient arrival, examination start, examination finish, etc.) to the Order Placer.



**Actor:** Order Placer (OP)

**Role:** Receive the examination status message.

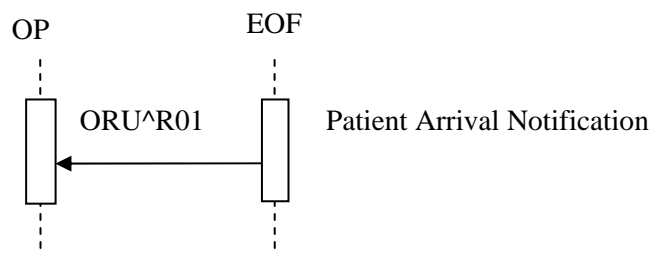
**Actor:** Endoscopy Order Filler (EOF)

**Role:** Notify the examination status to the Order Placer.

### 4.2.1 Referenced Standards

HL7 Ver2.5 Chapter 7.3

## 4.2.2 Interaction Diagram



Note: Simple acknowledgment messages are omitted from the diagrams for brevity.

## 4.2.3 Message Static Definitions

### 4.2.3.0 ORU^R01

The patient arrival notification (ORU) is used when notifying a patient arrival. The event type is ‘R01’

#### 4.2.3.0.1 Trigger Event

R01- Unsolicited transmission of an observation message

#### 4.2.3.0.2 Message

| <u>ORU^R01^ORU_R01</u> | <u>Unsolicited Observation Message</u> | <u>Status</u> | <u>Chapter</u> |
|------------------------|--|---------------|----------------|
| <u>MSH</u>             | Message Header                         |               | 2              |
| {                      | --- PATIENT_RESULT begin               |               |                |
| [                      | --- PATIENT begin                      |               |                |
| <u>PID</u>             | Patient Identification                 |               | 3              |
| [PD1]                  | Additional Demographics                |               | 3              |
| [{ <u>NTE</u> }]       | Notes and Comments                     |               | 2              |
| [ <u>PV1</u> ]         | Patient Visit                          |               | 3              |
| ]                      |  |               |                |
| {                      |  |               |                |
| [ <u>ORC</u> ]         | Order common                           |               | 4              |
| <u>OBR</u>             | Observations Request                   |               | 7              |
| [{ <u>NTE</u> }]       | Notes and comments                     |               | 2              |
| [{                     |  |               |                |
| <u>TQ1</u>             | Timing/Quantity                        |               | 4              |
| [{ <u>TQ2</u> }]       | Timing/Quantity Order Sequence         |               | 4              |
| }]                     |  |               |                |
| [CTD]                  | Contact Data                           |               | 11             |

| <u>ORU^R01^ORU_R01</u>  | <u>Unsolicited Observation<br/>Message</u>           | <u>Status</u> | <u>Chapter</u> |
|---|--|---------------|----------------|
| [ {<br><a href="#">OBX</a><br>{ <a href="#">NTE</a> }<br>}<br>] | Observation related to OBR<br><br>Notes and comments | 7<br><br>2    |                |
| [DSC]   | Continuation Pointer                                 | 2             |                |

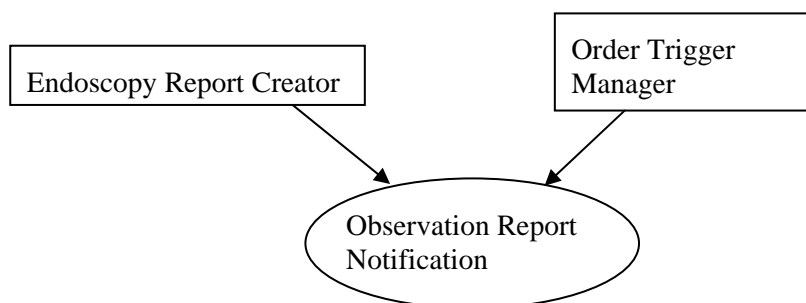
| <u>ACK^R01^ACK</u>          | <u>Acknowledgment</u>  | <u>Status</u> | <u>Chapter</u> |
|-----------------------------|------------------------|---------------|----------------|
| <a href="#">MSH</a>         | Message header         |               | 2              |
| <a href="#">MSA</a>         | Message acknowledgment |               | 2              |
| [ { <a href="#">ERR</a> } ] | Error                  |               | 2              |

### 4.3 Observation Report Notification

During endoscopy examination, when physician performs biopsy, pathology order should be necessary. This transaction specifies a procedure to send an endoscopy report (including all necessary information for the pathology order) from the department system to the HIS, to trigger the provision of information for the HIS to perform the pathology order.

#### 4.3.0 Scope

This transaction used by the Report to provide the observation report to the Pathology Order Trigger Receiver. (Pathology Order Trigger Receiver is expected to analyze the report to find if pathology order is necessary and notify the result to the order placer. However the expectation is out of scope of this document.)



**Actor:** Endoscopy Report Creator

**Role:** Provide the observation report to the Order Trigger Manager.

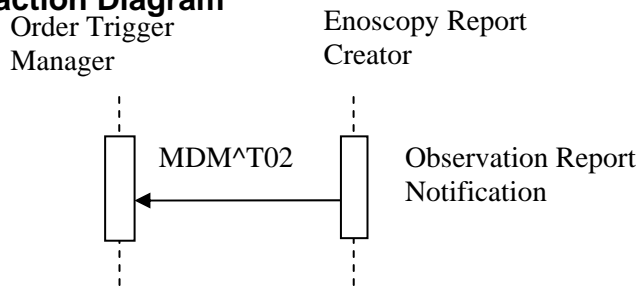
**Actor:** Order Trigger Manager

**Role:** Receive the observation report that report issued, analyze the report so that Order Placer places relating order (e.g. pathology order.).

### 4.3.1 Referenced Standards

HL7 Ver2.5 Chapter 9.3

### 4.3.2 Interaction Diagram



Note: Simple acknowledgment messages are omitted from the diagrams for brevity.

### 4.3.3 Message Static Definitions

#### 4.3.3.0 MDM^T02 Original Documentation Notification

The original documentation notification message (MDM) is used for providing the observation report. The segment and syntax rules in this case are as follows.

##### 4.3.3.0.1 Trigger Event

A report notification message event (T02) is an event that notifies an endoscopy observation report.

##### 4.3.3.0.2 Message

| <u>MDM^T02^MDM T02</u> | <u>Original Document Notification &amp; Content</u> | <u>Status</u> | <u>Chapter</u> |
|------------------------|---|---------------|----------------|
| <a href="#">MSH</a>    | Message Header                                      |               | 2              |
| EVN                    | Event Type  | B, v2.5       | 3              |
| <a href="#">PID</a>    | Patient Identification                              |               | 3              |
| <a href="#">PV1</a>    | Patient Visit                                       |               | 3              |
| [{                     | --- COMMON_ORDER begin                              |               |                |
| <a href="#">ORC</a>    | Common order segment                                |               | 4              |
| [{                     | --- TIMING begin                                    |               |                |
| <a href="#">TQ1</a>    | Timing/Quantity                                     |               | 4              |

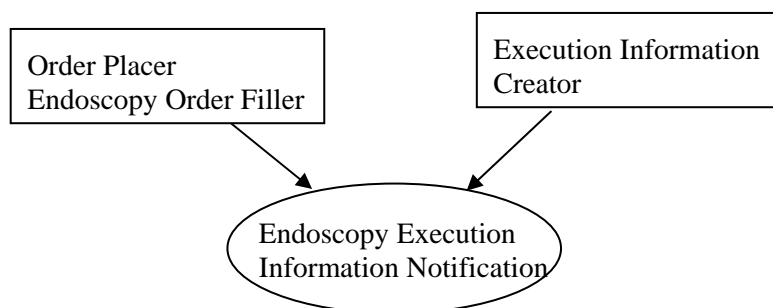
| <u>MDM^T02^MDM_T02</u>    | <u>Original Document Notification &amp; Content</u> | <u>Status</u> | <u>Chapter</u> |
|---------------------------|---|---------------|----------------|
| [{TQ2}]                   | Timing/Quantity Order Sequence                      |               | 4              |
| }}                        | --- TIMING end                                      |               |                |
| OBR                       | Observation request segment                         |               | 4              |
| [{ <a href="#">NTE</a> }] | Notes and comments about the observation (OBR)      |               | 2              |
|                           | --- COMMON_ORDER end                                |               |                |
| <a href="#">TXA</a>       | Document Notification                               |               | 9              |
| {                         |   |               |                |
| <a href="#">OBX</a>       | Observation/Result (one or more required)           |               | 9              |
| [{ <a href="#">NTE</a> }] | Notes and comments about the observation (OBX)      |               | 2              |
| }                         |   |               |                |
| <u>ACK^T02^ACK</u>        | <u>General Acknowledgment</u>                       | <u>Status</u> | <u>Chapter</u> |
| <a href="#">MSH</a>       | Message Header                                      |               | 2              |
| <a href="#">MSA</a>       | Message Acknowledgment                              |               | 2              |
| [{ <a href="#">ERR</a> }] | Error Information                                   |               | 2              |

- The output unit that confirms the arrival requires a MSH at the head.
- PID and PV1 are required.
- OBX is required to store document files complying with HL7 CDA R2.

## 4.4 Endoscopy Execution Information Notification

This transaction is used to return the endoscopy execution information to the HIS. Since WADO implementation requires the procedure UID notification, we have decided to use OMI message including IPC segment.

### 4.4.0 Scope



**Actor:** Execution Information Creator

**Role:** Provide endoscopy execution information to the Execution Information Receiver.

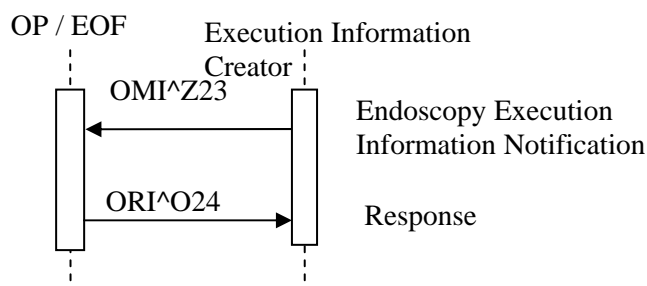
**Actor:** Order Placer (OP)

**Role:** Receive endoscopy execution information provided as a result of placing order.

### 4.4.1 Referenced Standards

HL7 Ver2.5 Chapter 4.4

### 4.4.2 Interaction Diagram



### 4.4.3 Message Static Definitions

#### 4.4.3.0 OMI^Z23 Execution Information Notification

An execution information notification message (endoscopy notification) (Z23) is an event that notifies endoscopy/procedure information.

##### 4.4.3.0.1 Trigger Event

Z23: Execution Information Notification

##### 4.4.3.0.2 Message

| <u>OMI^Z23^OMI_Z23</u>    | <u>Imaging Order Message</u>        | <u>Status</u> | <u>Chapter</u> |
|---------------------------|-------------------------------------|---------------|----------------|
| <a href="#">MSH</a>       | Message Header                      |               | 2              |
| [{ <a href="#">NTE</a> }] | Notes and Comments (for Header)     |               | 2              |
| <a href="#">PID</a>       | Patient Identification              |               | 3              |
| [{ <a href="#">NTE</a> }] | Notes and Comments (for Patient ID) |               | 2              |
| <a href="#">PV1</a>       | Patient Visit                       |               | 3              |
| [ <a href="#">PV2</a> ]   | Patient Visit- Additional Info      |               | 3              |
| [{ <a href="#">AL1</a> }] | Allergy Information                 |               | 3              |
| {                         | --- ORDER begin                     |               |                |
| <a href="#">ORC</a>       | Common Order                        |               | 4              |
| {                         | --- TIMING begin                    |               |                |
| <a href="#">TQ1</a>       | Timing/Quantity                     |               | 4              |
| [{ <a href="#">TQ2</a> }] | Timing/Quantity Order Sequence      |               | 4              |
| }                         | --- TIMING end                      |               |                |
| <a href="#">OBR</a>       | Observation                         |               | 4              |
| [{ <a href="#">NTE</a> }] | Notes and Comments (for Detail)     |               | 2              |
| [{                        | --- OBSERVATION begin               |               |                |
| <a href="#">OBX</a>       | Observation/Result                  |               | 7              |
| [{ <a href="#">NTE</a> }] | Notes and Comments (for Results)    |               | 2              |
| }]                        | --- OBSERVATION end                 |               |                |
| [{                        | --- Execution begin                 |               |                |
| <a href="#">ZE1</a>       | Execution Information Notification  |               |                |
| [{                        | --- OBSERVATION begin               |               |                |
| <a href="#">OBX</a>       | Observation/Result                  |               | 7              |
| }]                        | --- OBSERVATION end                 |               |                |
| }]                        | --- Execution end                   |               |                |
| { <a href="#">IPC</a> }   | Imaging Procedure Control           |               | 4              |

| <u>OMI^Z23^OMI_Z23</u> | <u>Imaging Order Message</u> | <u>Status</u> | <u>Chapter</u> |
|------------------------|------------------------------|---------------|----------------|
| }                      | --- ORDER end                |               |                |

#### 4.4.3.1 ORI^O24 Execution Information Notification Response

An execution information notification message (O24) is an event where a response to an endoscopy observation notification is provided.

##### 4.4.3.1.1 Trigger Event

O24: execution information notification response message

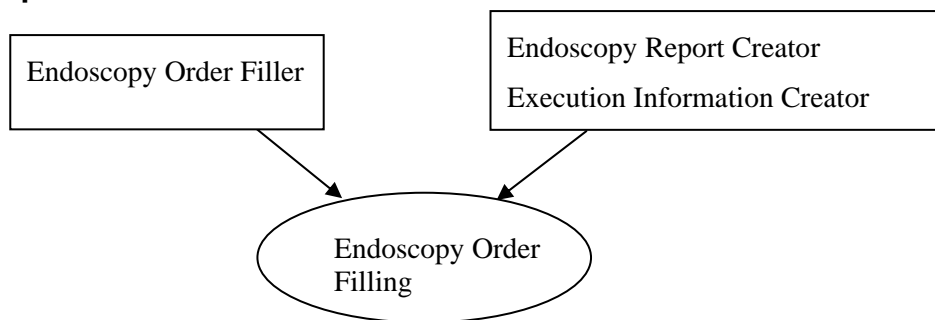
##### 4.4.3.1.2 Message

| <u>ORI^O24^ORI_O24</u>    | <u>Imaging Order Acknowledgment Message</u> | <u>Status</u> | <u>Chapter</u> |
|---------------------------|---|---------------|----------------|
| <a href="#">MSH</a>       | Message Header                              |               | 2              |
| <a href="#">MSA</a>       | Message Acknowledgment                      |               | 2              |
| [{ <a href="#">ERR</a> }] | Error                                       |               | 2              |
| [{ <a href="#">NTE</a> }] | Notes and Comments (for Header)             |               | 2              |
| [                         | --- RESPONSE begin                          |               |                |
| <a href="#">PID</a>       | Patient Identification                      |               | 3              |
| [{ <a href="#">NTE</a> }] | Notes and Comments (for Patient ID)         |               | 2              |
| {                         | --- ORDER begin                             |               |                |
| <a href="#">ORC</a>       | Common Order                                |               | 4              |
| [{                        | --- TIMING begin                            |               |                |
| <a href="#">TQ1</a>       | Timing/Quantity                             |               | 4              |
| [{ TQ2 }]                 | Timing/Quantity Order Sequence              |               | 4              |
| }]                        | --- TIMING end                              |               |                |
| <a href="#">OBR</a>       | Observation                                 |               | 4              |
| [{ <a href="#">NTE</a> }] | Notes and Comments (for Detail)             |               | 2              |
| { <a href="#">IPC</a> }   | Imaging Procedure Control                   |               | 4              |
| }                         | --- ORDER end                               |               |                |
| ]                         | --- RESPONSE end                            |               |                |

## 4.5 Endoscopy Order Filling

This transaction is the endoscopy order filling message from the EOF to the Endoscopy Report Creator and/or Execution Information Creator.

#### 4.5.0 Scope



**Actor:** Endoscopy Order Filler (EOF)

**Role:** Provide endoscopy order filling information to the Endoscopy Reportg Creator.

**Actor:** Endoscopy Report Creator

**Role:** Receive endoscopy order filling information that EOF provided.

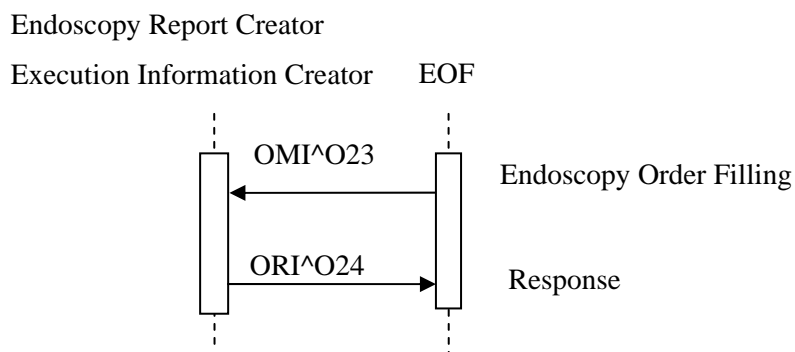
**Actor:** Execution Information Creator

**Role:** Provide endoscopy execution information to the Execution Information Receiver.

#### 4.5.1 Referenced Standards

HL7 Ver2.5 Chapter 4.4

#### 4.5.2 Interaction Diagram



#### 4.5.3 Message Static Definitions

##### 4.5.3.0 OMI^O23 Imaging Order

An imaging order message (endoscopy notification) (023) is an event that notifies endoscopy/procedure information.

### 4.5.3.0.1 Trigger Event

O23: Imaging order

### 4.5.3.0.2 Message

| <u>OMI^O23^OMI_O23</u>    | <u>Imaging Order Message</u>        | <u>Status</u> | <u>Chapter</u> |
|---------------------------|-------------------------------------|---------------|----------------|
| <a href="#">MSH</a>       | Message Header                      |               | 2              |
| [{ <a href="#">NTE</a> }] | Notes and Comments (for Header)     |               | 2              |
| <a href="#">PID</a>       | Patient Identification              |               | 3              |
| [{ <a href="#">NTE</a> }] | Notes and Comments (for Patient ID) |               | 2              |
| <a href="#">PV1</a>       | Patient Visit                       |               | 3              |
| [ PV2 ]                   | Patient Visit- Additional Info      |               | 3              |
| [{ AL1 }]                 | Allergy Information                 |               | 3              |
| {                         | --- ORDER begin                     |               |                |
| <a href="#">ORC</a>       | Common Order                        |               | 4              |
| {                         | --- TIMING begin                    |               |                |
| <a href="#">TQ1</a>       | Timing/Quantity                     |               | 4              |
| [{ TQ2 }]                 | Timing/Quantity Order Sequence      |               | 4              |
| }                         | --- TIMING end                      |               |                |
| <a href="#">OBR</a>       | Observation                         |               | 4              |
| [{ <a href="#">NTE</a> }] | Notes and Comments (for Detail)     |               | 2              |
| [{                        | --- OBSERVATION begin               |               |                |
| <a href="#">OBX</a>       | Observation/Result                  |               | 7              |
| [{ <a href="#">NTE</a> }] | Notes and Comments (for Results)    |               | 2              |
| }]                        | --- OBSERVATION end                 |               |                |
| { <a href="#">IPC</a> }   | Imaging Procedure Control           |               | 4              |
| }                         | --- ORDER end                       |               |                |

### 4.5.3.1 ORI^O24 Imaging Order Response

An imaging order response message (024) is an event where a response to an endoscopy order message.

#### 4.5.3.1.1 Trigger Event

O24: Imaging order response message to any OMI

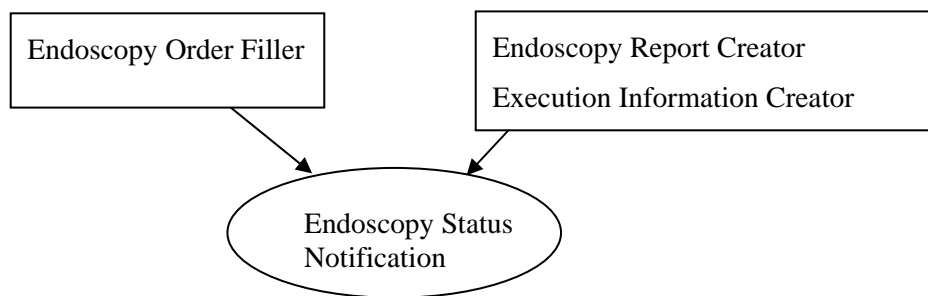
### 4.5.3.1.2 Message

| <u>ORI^O24^ORI_O24</u>    | <u>Imaging Order Acknowledgment Message</u> | <u>Status</u> | <u>Chapter</u> |
|---------------------------|---|---------------|----------------|
| <a href="#">MSH</a>       | Message Header                              |               | 2              |
| <a href="#">MSA</a>       | Message Acknowledgment                      |               | 2              |
| [{ <a href="#">ERR</a> }] | Error                                       |               | 2              |
| [{ <a href="#">NTE</a> }] | Notes and Comments (for Header)             |               | 2              |
| [                         | --- RESPONSE begin                          |               |                |
| <a href="#">PID</a>       | Patient Identification                      |               | 3              |
| [{ <a href="#">NTE</a> }] | Notes and Comments (for Patient ID)         |               | 2              |
| {                         | --- ORDER begin                             |               |                |
| <a href="#">ORC</a>       | Common Order                                |               | 4              |
| [{                        | --- TIMING begin                            |               |                |
| <a href="#">TQ1</a>       | Timing/Quantity                             |               | 4              |
| [{ TQ2 }]                 | Timing/Quantity Order Sequence              |               | 4              |
| }]                        | --- TIMING end                              |               |                |
| <a href="#">OBR</a>       | Observation                                 |               | 4              |
| [{ <a href="#">NTE</a> }] | Notes and Comments (for Detail)             |               | 2              |
| { <a href="#">IPC</a> }   | Imaging Procedure Control                   |               | 4              |
| }                         | --- ORDER end                               |               |                |
| ]                         | --- RESPONSE end                            |               |                |

## 4.6 Endoscopy Status Notification

This transaction enables the Endoscopy Report Creator and/or Execution Information Creator to send a message to notify the EOF of the completion of the endoscopy observation report and/or completion of providing performed information. Endoscopy is considered completed upon the completion of endoscopy report and the completion of performed information notification. Thus, EOF in receiving the message is acknowledging that the endoscopy has been completed.

### 4.6.0 Scope



**Actor:** Endoscopy Order Filler (EOF)

**Role:** Receive endoscopy status information that Endoscopy Report Creator provided.

**Actor:** Endoscopy Report Creator

**Role:** Provide endoscopy status information.

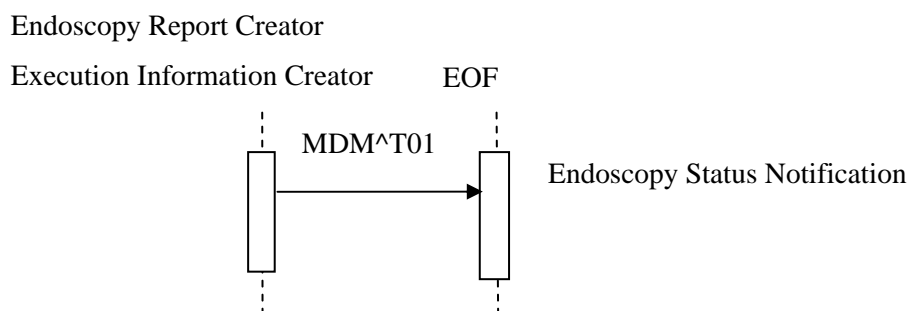
**Actor:** Execution Information Creator

**Role:** Provide endoscopy execution information to the Execution Information Receiver.

#### 4.6.1 Referenced Standards

HL7 Ver2.5 Chapter 4.4

#### 4.6.2 Interaction Diagram



Note: Simple acknowledgment messages are omitted from the diagrams for brevity.

#### 4.6.3 Message Static Definitions

##### 4.6.3.0 MDM^T01 Original Documentation Notification

The original documentation notification (MDM) is used for notifying the status of the endoscopy observation report. The event type is 'T01'.

### 4.6.3.0.1 Trigger Event

A report notification message event (T01) is an event that notifies an endoscopy observation report status.

### 4.6.3.0.2 Message

| <u>MDM^T01^MDM_T01</u>      | <u>Original Document Notification &amp; Content</u> | <u>Status</u> | <u>Chapter</u> |
|-----------------------------|---|---------------|----------------|
| <a href="#">MSH</a>         | Message Header                                      |               | 2              |
| EVN                         | Event Type  | B, v2.5       | 3              |
| <a href="#">PID</a>         | Patient Identification                              |               | 3              |
| <a href="#">PV1</a>         | Patient Visit                                       |               | 3              |
| [ {                         | --- COMMON_ORDER begin                              |               |                |
| <a href="#">ORC</a>         | Common order segment                                |               | 4              |
| [ {                         | --- TIMING begin                                    |               |                |
| <a href="#">TQ1</a>         | Timing/Quantity                                     |               | 4              |
| [ {TQ2} ]                   | Timing/Quantity Order Sequence                      |               | 4              |
| } ]                         | --- TIMING end                                      |               |                |
| <a href="#">OBR</a>         | Observation request segment                         |               | 4              |
| [ { <a href="#">NTE</a> } ] | Notes and comments about the observation (OBR)      |               | 2              |
|                             | --- COMMON_ORDER end                                |               |                |
| <a href="#">TXA</a>         | Document Notification                               |               | 9              |
| <u>ACK^T01^ACK</u>          | <u>General Acknowledgment</u>                       | <u>Status</u> | <u>Chapter</u> |
| <a href="#">MSH</a>         | Message Header                                      |               | 2              |
| <a href="#">MSA</a>         | Message Acknowledgment                              |               | 2              |
| [ { <a href="#">ERR</a> } ] | Error Information                                   |               | 2              |

- The output unit that confirms the arrival requires a MSH at the head.
- PID and PV1 are required.