**Integrating the Healthcare Enterprise**



**IHE Endoscopy**

**Technical Framework Supplement**

**Endoscopy Ordering Workflow   
(EWF)**

**Rev. 2.1 – Trial Implementation**

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**Please verify you have the most recent version of this document.** See [here](http://ihe.net/Technical_Frameworks/) for Trial Implementation and Final Text versions and [here](http://ihe.net/Public_Comment/) for Public Comment versions.

**Foreword**

This is a supplement to the forthcoming IHE Endoscopy Technical Framework. Each supplement undergoes a process of public comment and trial implementation before being incorporated into the volumes of the Technical Frameworks.

This supplement is published on February xx, 2017 for trial implementation and may be available for testing at subsequent IHE Connectathons. The supplement may be amended based on the results of testing. Following successful testing it will be incorporated into the forthcoming Endoscopy Technical Framework. Comments are invited and may be submitted at [http://www.ihe.net/endoscopy\_Public\_Comments](http://www.ihe.net/endoscopy_Public_Comments/).

This supplement describes changes to the existing technical framework documents.

“Boxed” instructions like the sample below indicate to the Volume Editor how to integrate the relevant section(s) into the relevant Technical Framework volume.

Amend Section X.X by the following:

Where the amendment adds text, make the added text bold underline. Where the amendment removes text, make the removed text bold strikethrough. When entire new sections are added, introduce with editor’s instructions to “add new text” or similar, which for readability are not bolded or underlined.

General information about IHE can be found at [www.ihe.net](http://www.ihe.net).

Information about the IHE Endoscopy domain can be found at [http://www.ihe.net/IHE\_Domains](http://www.ihe.net/IHE_Domains/).

Information about the organization of IHE Technical Frameworks and Supplements and the process used to create them can be found at [http://www.ihe.net/IHE\_Process](http://www.ihe.net/IHE_Process/) and [http://www.ihe.net/Profiles](http://www.ihe.net/Profiles/).

The current version of the IHE Endoscopy Technical Framework can be found at [http://www.ihe.net/Technical\_Frameworks](http://www.ihe.net/Technical_Frameworks/).

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# Introduction to this Supplement

The Endoscopy Ordering Workflow Profile 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 IHE Endoscopy Integration Profiles rely heavily on, and reference, the transactions defined in those other IHE Technical Framework documents.

Please note that as a result of harmonization with SWF.b, the Endoscopy domain decided to adapt Transaction RAD-3 instead of Transaction ENDO-2 (Notify Patient Arrival). The change influences the patient arrival notification message in HL7®[[1]](#footnote-1) from ORU to OMG.

## Open Issues and Questions

None

## Closed Issues

None

# General Introduction

Update the following Appendices to the General Introduction as indicated below. Note that these are not appendices to Volume 1.

Appendix A - Actor Summary Definitions

Add the following actors to the IHE Technical Frameworks General Introduction list of Actors:

|  |  |
| --- | --- |
| Actor | Definition |
| Execution Information Creator (EIC) | The actor that provides endoscopy execution information to the OP. |

Appendix B - Transaction Summary Definitions

Add the following transactions to the IHE Technical Frameworks General Introduction list of Transactions:

|  |  |
| --- | --- |
| Transaction | Definition |
| Order Endoscopy [ENDO-1] | The transaction that places the endoscopy order. |
| **~~Notify Patient Arrival [ENDO-2]~~** | **~~The transaction that notifies the status of patient arrival.~~** |
| Notify Endoscopy Execution Information [ENDO-4] | The transaction that provides endoscopy execution information. |
| Fill Endoscopy Order [ENDO-5] | The transaction that fills the endoscopy order. |

Glossary

Add the following glossary terms to the IHE Technical Frameworks General Introduction Glossary:

None

Volume 1 – Profiles

## Copyright Licenses

Add the following to the IHE Technical Frameworks General Introduction Copyright section:

Section not applicable

## Domain-specific additions

Section not applicable

Add Section X

# X Endoscopy Ordering Workflow (EWF) Profile

The Endoscopy Ordering Workflow Profiles specifies workflows where endoscopy is ordered from hospital information system located outside of the endoscopy department and the result returned to the system.

The Order Filler (OF) receives an order from the Order Placer (OP). When the endoscopy procedure is over, the OF notifies the hospital information system located outside of the endoscopy department of the performed procedure information.

An independent actor generates performed procedure information, because performed procedure information can be input either as a part of a report or a part of an OF.

We also considered returning status of “Execution data input was done” to OP independently from the status of Endoscopy report by “Endoscopy Execution Information Notification” transaction

## X.1 EWF Actors, Transactions, and Content Modules

This section defines the actors, transactions, and/or content modules in this profile. General definitions of actors are given in the Technical Frameworks General Introduction Appendix A at [http://www.ihe.net/Technical\_Frameworks](http://www.ihe.net/Technical_Frameworks/).

Figure X.1-1 shows the actors directly involved in the EWF Profile and the relevant transactions between them.

Order Placer

Order Filler

Performed Procedure Reporter

Placer Order

Management

[RAD-2]

Filler Order Management [RAD-3]

Fill Endoscopy Order

[ENDO-5]

Notify

Performed Procedure

Information [ENDO-4]

Notify

Performed Procedure

Information [ENDO-4]

Figure X.1-1: EWF Actor Diagram

Table X.1-1 lists the transactions for each actor directly involved in the EWF Profile. To claim compliance with this profile, an actor shall support all required transactions (labeled “R”) and may support the optional transactions (labeled “O”).

Table X.1-1: EWF Profile - Actors and Transactions

| **Actors** | **Transactions** | **Optionality** | **Section** |
| --- | --- | --- | --- |
| Order Placer | Placer Order Management [RAD-2] Note 1 | R | RAD TF-2: 4.2 |
| Filler Order Management [RAD-3] Note 3 | R | RAD TF-2: 4.3 |
| Notify Performed Procedure Information  [ENDO-4] | R | ENDO TF- 2: 4.4 |
| Order Filler | Placer Order Management [RAD-2] Note 1 | R | RAD TF-2: 4.2 |
| Filler Order Management [RAD-3] Note 3 | R | RAD TF-2: 4.3 |
| Notify Performed Procedure Information  [ENDO-4] | O Note 2 | ENDO TF-2: 4.4 |
| Fill Endoscopy Order [ENDO-5] | O Note 2 | ENDO TF-2: 4.5 |
| Performed Procedure Reporter | Notify Performed Procedure Information  [ENDO-4] | R (to OP)  O (to OF) Note 2 | ENDO TF-2: 4.4 |
| Fill Endoscopy Order [ENDO-5] | O Note 2 | ENDO TF-2: 4.5 |

Note 1: Apply RAD-2 of HL7 ver2.5.1 to Endoscopy Placer Order Management.

Note 2: As far as Order Filler and Performed Procedure Reporter are implemented in same system, it is Optional.

Note 3: Apply RAD-3 of HL7 ver. 2.5.1 to Notify Patient Arrival.

### X.1.1 Actor Descriptions and Actor Profile Requirements

Most requirements are documented in Transactions (Volume 2) and Content Modules (Volume 3). This section documents any additional requirements on profile’s actors.

## X.2 EWF Actor Options

Options that may be selected for each actor in this profile, if any, are listed in the Table X.2-1. Dependencies between options when applicable are specified in notes.

Table X.2-1: EWF - Actors and Options

| Actor | Option Name | Reference |
| --- | --- | --- |
| Order Placer | No options defined | -- |
| Order Filler | No options defined | -- |
| Performed Procedure Reporter | No options defined | -- |

## X.3 EWF Required Actor Groupings

An actor from this profile (Column 1) shall implement all of the required transactions and/or content modules in this profile ***in addition to*** all of the transactions required for the grouped actor (Column 2).

If this is a content profile, and actors from this profile are grouped with actors from a workflow or transport profile, the Content Bindings reference column references any specifications for mapping data from the content module into data elements from the workflow or transport transactions.

In some cases, required groupings are defined as at least one of an enumerated set of possible actors; this is designated by merging column one into a single cell spanning multiple potential grouped actors. Notes are used to highlight this situation.

Section X.5 describes some optional groupings that may be of interest for security considerations and Section X.6 describes some optional groupings in other related profiles.

Table X.3-1: EWF - Required Actor Groupings

| EWF Actor | Actor to be grouped with | Reference | Content Bindings Reference |
| --- | --- | --- | --- |
| Order Placer | None | - -- | -- |
| Order Filler | None | - -- | -- |
| Performed Procedure Reporter | None | - -- | -- |

## X.4 EWF Overview

### X.4.1 Concepts

### X.4.2 Use Cases

#### X.4.2.1 Use Case #1: Endoscopy Basic Workflow

The use case represents the basic workflow. It includes the information process of endoscopy order, performed information and actors’ status information.

##### X.4.2.1.1 Endoscopy Basic Workflow Use Case Description

The Process Flow from an endoscopy order and execution to the performed information notification is presented below. The Order Placer places an order to prepare the endoscopy. The Order Filler notifies the Order Placer of patient arrival after which changes of order by the Order Placer are prohibited. Upon the completion of the performed data entry, the Performed Procedure Reporter notifies the Order Placer of the performed information. Then the Order Filler identifies the Exam End when it receives the task completion notification from the Performed Procedure Reporter.

##### X.4.2.1.2 Endoscopy Basic Workflow Process Flow

Performed Procedure Reporter

Order Placer

Notify Performed Procedure Information [ENDO-4]

Notify Performed Procedure Information [ENDO-4]

Performed Procedure Data Entry

Filler Order Management [RAD-3]

Fill Endoscopy Order [ENDO-5]

Placer Order Management [RAD-2]

Create order

Order Filler

Notify Performed Procedure Information [ENDO-4]

Patient Arrival

Figure X.4.2.1.2-1: Basic Process Flow in EWF Profile

## X.5 EWF Security Considerations

The security considerations for a content module are dependent upon the security provisions defined by the grouped actor(s).

## X.6 EWF Cross Profile Considerations

PAM – Patient Administration Management

Patient Demographics Consumer and Patient Encounter Consumer in Patient Administration Management could be grouped with an Order Placer and an Order Filler in order to manage patient information.

PDQ – Patient Demographics Query

Patient Demographics Consumer and Patient Encounter Consumer in Patient Demographics Query could be grouped with an Order Placer and an Order Filler in order to manage patient information.

CT – Constant Time

Time Client in Constant Time could be grouped with an Order Placer, an Order Filler and Performed Procedure Reporter in order to synchronize the entire system.

Appendices

None

Volume 2 – Transactions

Add Section 3.4

## 3.4 Notify Performed Procedure Information [ENDO-4]

This section corresponds to Transaction ENDO-4 of the IHE Technical Framework. Transaction ENDO-4 is used by the Order Filler, Performed Procedure Reporter and Order Placer Actors.

### 3.4.1 Scope

### 3.4.2 Actor Roles

Order Filler

Performed Procedure Reporter

Actor ABC

Order Placer

Order Filler

Actor DEF

Figure 3.4.2-1: Use Case Diagram

Table 3.4.2-1: Actor Roles

|  |  |
| --- | --- |
| **Actor:** | Order Placer |
| **Role:** | Receive information about performance of an endoscopy procedure. |
| **Actor:** | Order Filler |
| **Role:** | Receives information about the performance of an endoscopy procedure. |
| **Actor:** | Performed Procedure Reporter |
| **Role:** | Provide information to the about performance of an endoscopy procedure. |

### 3.4.3 Referenced Standards

HL7 Ver2.5 Chapter 4.4

### 3.4.4 Interaction Diagram

Notify Performed Procedure Information

ORU^R01

Response

Order Placer / Order Filler

Performed Procedure Reporter

Figure 3.4.4-1: ORU Interaction Diagram

#### 3.4.4.1 ORU^R01

Notify Performed Procedure Information is an event that notifies endoscopy/procedure information. The trigger event type is R01.

##### 3.4.4.1.1 Trigger Events

R01- Unsolicited transmission of an observation message

##### 3.4.4.1.2 Message Semantics

| ORU^R01^ORU\_R01 | Unsolicited observation Message | Status | Chapter |
| --- | --- | --- | --- |
| MSH | Message Header |  | 2 |
| { |  |  |  |
| PID | Patient Identification |  | 3 |
| [{ NTE }] | Notes and Comments (for Patient ID) |  | 2 |
| [ PV1 ] | Patient Visit |  | 3 |
| { |  |  |  |
| [ ORC ] | Common Order |  | 4 |
| OBR | Observation |  | 4 |
| [{ NTE }] | Notes and Comments (for Detail) |  | 2 |
| { | --- TIMING begin |  |  |
| TQ1 | Timing/Quantity |  | 4 |
| [{ TQ2 }] | Timing/Quantity Order Sequence |  | 4 |
| } | --- TIMING end |  |  |
| [{ | --- OBSERVATION begin |  |  |
| OBX | Observation/Result |  | 7 |
| [{ NTE }] | Notes and Comments (for Results) |  | 2 |
| }] | --- OBSERVATION end |  |  |
| { | --- Execution begin |  |  |
| ZE1 | Execution Information Notification |  |  |
| { | --- OBSERVATION begin |  |  |
| OBX | Observation/Result |  | 7 |
| } | --- OBSERVATION end |  |  |
| } | --- Execution end |  |  |
| } |  |  |  |
| } |  |  |  |
| [ DSC ] | continuation pointer |  | 4 |

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

###### 3.4.4.1.2.1 MSH

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

Table 3.4.4.1.2.1-1: 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 |  | 0104 | 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 |

3.4.4.1.2.1.1 MSH field definitions

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

3.4.4.1.2.1.2 MSH-12 Version ID (VID) 00012

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.

Table 3.4.4.1.2.1.2-1: HL7 Table 0104 - Version ID

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

###### 3.4.4.1.2.2 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".

Table 3.4.4.1.2.2-1: 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 |

3.2.4.1.2.2.1 NTE field definitions

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

###### 3.4.4.1.2.3 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.

Table 3.4.4.1.2.3-1: 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 | XPN | R | Y |  | 00108 | Patient Name |
| 6 | 250 | XPN | 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 | XPN | B | Y |  | 00112 | Patient Alias |
| 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 |

3.4.4.1.2.3.1 PID field definitions

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

3.4.4.1.2.3.2 PID-35 Species Code (CE) 01539

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

3.4.4.1.2.3.3 PID-36 Breed Code (CE) 01540

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

3.4.4.1.2.3.4 PID-37 Strain (ST) 01541

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

3.4.4.1.2.3.5 PID-38 Production Class Code (CE) 01542

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

###### 3.4.4.1.2.4 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.

Table 3.4.4.1.2.4-1: 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 |
| 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 |

3.4.4.1.2.4.1 PV1 field definitions

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

###### 3.4.4.1.2.5 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.

Table 3.4.4.1.2.5-1: 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 |
| 30 | 250 | CNE | O |  | 0483 | 01644 | Enterer Authorization Mode |

ORC use notes:

1. 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.

1. 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.

1. 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 cancelation.)
4. The remaining, unperformed, children are canceled as a result of the request.

3.4.4.1.2.5.1 ORC field definitions

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

###### 3.4.4.1.2.6 OBR

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.

Table 3.4.4.1.2.6-1: 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 |
| 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 |

3.4.4.1.2.6.1 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”.

3.4.4.1.2.6.2 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)>

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).

3.4.4.1.2.6.3 OBR-5 Priority – OBR (ID) 00239

***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 *TQ-1-priority*.

3.4.4.1.2.6.4 OBR-6 Requested Date/Time (TS) 00240

***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.

3.4.4.1.2.6.5 OBR-9 Collection Volume (CQ) 00243

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

3.4.4.1.2.6.6 OBR-10 Collector Identifier (XCN) 00244

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.

3.4.4.1.2.6.7 OBR-11 Specimen Action Code (ID) 00245

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.

3.4.4.1.2.6.8 OBR-13 Relevant Clinical Information (ST) 00247

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.

3.4.4.1.2.6.9 OBR-14 Specimen Received Date/Time (TS) 00248

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.

3.4.4.1.2.6.10 OBR-15 Specimen Source (SPS) 00249

***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.

3.4.4.1.2.6.11 OBR-22 Results Rpt/Status Chng ‑ Date/Time (TS) 00255

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

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.)

3.4.4.1.2.6.12 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 Validity Range (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)>

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.

3.4.4.1.2.6.13 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)>

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.

3.4.4.1.2.6.14 OBR-37 Number of Sample Containers (NM) 01028

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

3.4.4.1.2.6.15 OBR-38 Transport Logistics of Collected Sample (CE) 01029

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

3.4.4.1.2.6.16 OBR-39 Collector's Comment (CE) 01030

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

3.4.4.1.2.6.17 OBR-44 Procedure Code (CE) 00393

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

3.4.4.1.2.6.18 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)>

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](#HL70411).

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.

###### 3.4.4.1.2.7 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®[[2]](#footnote-2) document or a DICOM®[[3]](#footnote-3) 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.

Table 3.4.4.1.2.7-1: 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 | 99999[[4]](#footnote-4) | varies | C | Y[[5]](#footnote-5) |  | 00573 | Observation Value |
| 6 | 250 | CE | O |  |  | 00574 | Units |
| 7 | 60 | ST | O |  |  | 00575 | References Range |
| 8 | 5 | IS | O | Y | 0078 | 00576 | Abnormal Flags |
| 9 | 5 | NM | O |  |  | 00577 | Probability |
| 10 | 2 | ID | O | Y |  | 00578 | Nature of Abnormal Test |
| 11 | 1 | ID | R |  | 0085 | 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 | O | Y |  | 00936 | Observation Method |
| 18 | 22 | EI | O | Y |  | 01479 | Equipment Instance Identifier |
| 19 | 26 | TS | O |  |  | 01480 | Date/Time of the Analysis |

3.4.4.1.2.7.1 OBX field definitions

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

3.4.4.1.2.7.2 OBX-1 Set ID ‑ OBX‑ (SI) 00569

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

3.4.4.1.2.7.3 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)>

This field contains a unique identifier for the observation.

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.

3.4.4.1.2.7.4 OBX-4 Observation Sub‑ID‑ (ST) 00572

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 3.4.4.1.2.7.4-1.

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 INFLAMATORY CHANGE|...<cr>

OBX|8|CE|88304&IMP|2|M-40000^INFLAMMATION NOS^SNM|...<cr>

Figure 3.4.4.1.2.7.4-1: Example of sub-identifier usage

The example in Figure 3.4.4.1.2.7.4-1 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.

3.4.4.1.2.7.5 OBX-5 Observation Value (varies) 00573

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, “CSS - Clinical Study Data Schedule Segment,” 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, for example:

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.

3.4.4.1.2.7.6 OBX-7 References Range (ST) 00575

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.

3.4.4.1.2.7.7 OBX-8 Abnormal Flags (IS) 00576

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.

3.4.4.1.2.7.8 OBX-9 Probability (NM) 00577

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

3.4.4.1.2.7.9 OBX-10 Nature of abnormal test (ID) 00578

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

3.4.4.1.2.7.10 OBX-11 Observation Result Status (ID) 00579

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.

Table 3.4.4.1.2.7.10-1: 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.’ For example, radiology changes status from preliminary to final. |  |
| W | Post original as wrong, e.g., transmitted for wrong patient. |  |

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

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.

3.4.4.1.2.7.12 OBX-13 User Defined Access Checks (ST) 00581

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.

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

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

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

3.4.4.1.2.7.14 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.

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

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.

###### 3.4.4.1.2.8 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.

Table 3.4.4.1.2.8-1: 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 | O | Y | 0485 | 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 |

3.4.4.1.2.8.1 TQ1 field definitions

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

3.4.4.1.2.8.2 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)>

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

Table 3.4.4.1.2.8.2-1: 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 |  |

###### 3.4.4.1.2.9 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.

Table 3.4.4.1.2.9-1: 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 |

3.4.4.1.2.9.1 ZE1 Field Definitions

3.4.4.1.2.9.2 ZE1-1 Set ID (SI) ZE001

The serial number from 1 given to ZE1 segments in the same group.

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

3.4.4.1.2.9.3 ZE1-2 Control code (IS) ZE002

Whether the information is for a scheduled observation or one already performed.

Mainly used for RS (results) only.

Table 3.4.4.1.2.9.3-1: Table Control code

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

3.4.4.1.2.9.4 ZE1-3 Procedure (CWE) ZE003

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.

3.4.4.1.2.9.5 ZE1-4 Number of procedures (NM) ZE004

The number of procedures specified in ZE1-3.

3.4.4.1.2.9.6 ZE1-5 Supplemental billing information (CWE) ZE005

The supplemental billing information.

This field is not used for endoscopy.

3.4.4.1.2.9.7 ZE1-6 Healthcare practitioner category (JCC) ZE006

Job title and employment status of the healthcare practitioners involved.

This field is not used for endoscopy.

3.4.4.1.2.9.8 ZE1-7 Healthcare practitioner (XCN) ZE007

Names of the health practitioners involved. Written as a set with the health practitioner category. Repetition is possible.

This field is not used for endoscopy.

3.4.4.1.2.9.9 ZE1-8 Material category (IS) ZE008

Category of materials used for the observation.

This field is not used for endoscopy.

3.4.4.1.2.9.10 ZE1-9 Material used (ZRD) ZE009

Materials used for the observation.

This field is not used for endoscopy.

3.4.4.1.2.9.11 ZE1-10 Contact information (XTN) ZE010

Contact information.

3.4.4.1.2.9.12 ZE1-11 Implementation field (ST) ZE011

Set comments concerning implementation.

3.4.4.1.2.9.13 ZE1-12 Accounting field (ST) ZE012

Set comments concerning accounting.

##### 3.4.4.1.3 Expected Actions

The Order Placer and Order Filler are not required to acknowledge this message or parse the contents.

### 3.4.5 Security Considerations

This transaction may contain patient information in PID.

#### 3.4.5.1 Security Audit Considerations

This transaction is not associated with an ATNA Trigger Event.

Add Section 3.5

## 3.5 Fill Endoscopy Order [ENDO-5]

This transaction corresponds to Transaction ENDO-5 of the IHE Technical Framework. Transaction ENDO-5 is used by the actors: Order filler and Performed Procedure Reporter.

### 3.5.1 Scope

This transaction is the endoscopy order filling message from the Order Filler to the Performed Procedure Reporter.

### 3.5.2 Actor Roles

Order Filler

Actor ABC

Performed Procedure Reporter

Actor DEF

Figure 3.5.2-1: Use Case Diagram

Table 3.5.2-1: Actor Roles

|  |  |
| --- | --- |
| **Actor:** | Order Filler |
| **Role:** | Provide endoscopy order filling information. |
| **Actor:** | Performed Procedure Reporter |
| **Role:** | Receives endoscopy filling information. |

### 3.5.3 Referenced Standards

HL7 Ver2.5 Chapter 4.4

### 3.5.4 Interaction Diagram

Fill Endoscopy Order

OMI^O23

ORI^O24

Response

Performed Procedure Reporter

Order Filler

Figure 3.5.4-1: OMI Interaction Diagram

#### 3.5.4.1 OMI^O23

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

##### 3.5.4.1.1 Trigger Events

O23: Imaging order

##### 3.5.4.1.2 Message Semantics

| OMI^O23^OMI\_O23 | Imaging Order Message | Status | Chapter |
| --- | --- | --- | --- |
| MSH | Message Header |  | 2 |
| [{ NTE }] | Notes and Comments (for Header) |  | 2 |
| PID | Patient Identification |  | 3 |
| [{ NTE }] | Notes and Comments (for Patient ID) |  | 2 |
| PV1 | Patient Visit |  | 3 |
| [ PV2 ] | Patient Visit- Additional Info |  | 3 |
| [{ AL1 }] | Allergy Information |  | 3 |
| { | --- ORDER begin |  |  |
| ORC | Common Order |  | 4 |
| { | --- TIMING begin |  |  |
| TQ1 | Timing/Quantity |  | 4 |
| [{ TQ2 }] | Timing/Quantity Order Sequence |  | 4 |
| } | --- TIMING end |  |  |
| OBR | Observation |  | 4 |
| [{ NTE }] | Notes and Comments (for Detail) |  | 2 |
| [{ | --- OBSERVATION begin |  |  |
| OBX | Observation/Result |  | 7 |
| [{ NTE }] | Notes and Comments (for Results) |  | 2 |
| }] | --- OBSERVATION end |  |  |
| { IPC } | Imaging Procedure Control |  | 4 |
| } | --- ORDER end |  |  |

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

###### 3.5.4.1.2.1 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).

Table 3.5.4.1.2.1-1: 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 |

3.5.4.1.2.1.1 IPC field definitions

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

3.5.4.1.2.1.2 IPC-1 Accession Identifier (EI) 01330

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

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.

3.5.4.1.2.1.3 IPC-2 Requested Procedure ID (EI) 01658

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

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.

3.5.4.1.2.1.4 IPC-3 Study Instance UID (EI) 01659

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

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.

3.5.4.1.2.1.5 IPC-4 Scheduled Procedure Step ID (EI) 01660

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

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.

##### 3.5.4.1.3 Expected Actions

Section not applicable.

#### 3.5.4.2 ORI^O24 Imaging Order Response

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

##### 3.5.4.2.1 Trigger Events

O24: Imaging order response message to any OMI.

##### 3.5.4.2.2 Message Semantics

| ORI^O24^ORI\_O24 | Imaging Order Acknowledgment Message | Status | Chapter |
| --- | --- | --- | --- |
| MSH | Message Header |  | 2 |
| MSA | Message Acknowledgment |  | 2 |
| [{ ERR }] | Error |  | 2 |
| [{ NTE }] | Notes and Comments (for Header) |  | 2 |
| [ | --- RESPONSE begin |  |  |
| PID | Patient Identification |  | 3 |
| [{ NTE }] | Notes and Comments (for Patient ID) |  | 2 |
| { | --- ORDER begin |  |  |
| ORC | Common Order |  | 4 |
| [{ | --- TIMING begin |  |  |
| TQ1 | Timing/Quantity |  | 4 |
| [{ TQ2 }] | Timing/Quantity Order Sequence |  | 4 |
| }] | --- TIMING end |  |  |
| OBR | Observation |  | 4 |
| [{ NTE }] | Notes and Comments (for Detail) |  | 2 |
| { IPC } | Imaging Procedure Control |  | 4 |
| } | --- ORDER end |  |  |
| ] | --- RESPONSE end |  |  |

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

##### 3.5.4.2.3 Expected Actions

Section not applicable

### 3.5.5 Security Considerations

Section not applicable

#### 3.5.5.1 Security Audit Considerations

Section not applicable

Appendices

None

Volume 2 Namespace Additions

Add the following terms to the IHE General Introduction Appendix G:

None

Volume 3 – Content Modules

This section is not applicable.

# 5 Namespaces and Vocabularies

Add to Section 5 Namespaces and Vocabularies

Not applicable

# 6 Content Modules

No content modules defined by this profile.

Appendices

None

Volume 3 Namespace Additions

Add the following terms to the IHE Namespace:

None

Volume 4 – National Extensions

# 4 National Extensions

## National Extensions for Japan

### 4.1.1 MSH

Optionality of MSH segment is defined as follows. It is based on the actual implementation in Japan.

Table 4.1.1-1: MSH optionality

|  |  |  |
| --- | --- | --- |
| Field | Original | Japan |
| MSH-18 | O | R |
| MSH-20 | O | C |

### 4.1.2 PID

Optionality of PID segment is defined as follows. It is based on the actual implementation in Japan.

Table 4.1.2-1: PID optionality

| Field | Original | Japan |
| --- | --- | --- |
| PID-6 | O | N |
| PID-7 | O | RE |
| PID-8 | O | RE |
| PID-9 | B | N |
| PID-10 | O | N |
| PID-12 | B | N |
| PID-15 | O | N |
| PID-17 | O | N |
| PID-19 | B | N |
| PID-20 | B | N |
| PID-22 | O | N |
| PID-23 | O | N |
| PID-24 | O | N |
| PID-25 | O | N |
| PID-26 | O | N |
| PID-27 | O | N |
| PID-35 | C | N |
| PID-36 | C | N |
| PID-37 | O | N |
| PID-38 | O | N |
| PID-39 | O | N |

### 4.1.3 PV1

Optionality of PV1 segment is defined as follows. It is based on the actual implementation in Japan.

Table 4.1.3-1: PV1 optionality

| Field | Original | Japan |
| --- | --- | --- |
| PV1-1 | O | N |
| PV1-5 | O | N |
| PV1-6 | O | N |
| PV1-9 | B | N |
| PV1-10 | O | N |
| PV1-11 | O | N |
| PV1-12 | O | N |
| PV1-13 | O | N |
| PV1-14 | O | N |
| PV1-17 | O | N |
| PV1-18 | O | N |
| PV1-19 | O | N |
| PV1-20 | O | N |
| PV1-21 | O | N |
| PV1-22 | O | N |
| PV1-23 | O | N |
| PV1-24 | O | N |
| PV1-25 | O | N |
| PV1-26 | O | N |
| PV1-27 | O | N |
| PV1-28 | O | N |
| PV1-29 | O | N |
| PV1-30 | O | N |
| PV1-31 | O | N |
| PV1-32 | O | N |
| PV1-33 | O | N |
| PV1-34 | O | N |
| PV1-35 | O | N |
| PV1-36 | O | N |
| PV1-37 | O | N |
| PV1-38 | O | N |
| PV1-39 | O | N |
| PV1-40 | B | N |
| PV1-41 | O | N |
| PV1-42 | O | N |
| PV1-43 | O | N |
| PV1-46 | O | N |
| PV1-47 | O | N |
| PV1-48 | O | N |
| PV1-49 | O | N |
| PV1-50 | O | N |
| PV1-51 | O | N |
| PV1-52 | B | N |

### 4.1.4 ORC

Optionality of ORC segment is defined as follows. It is based on the actual implementation in Japan.

Table 4.1.4-1: ORC optionality

|  |  |  |
| --- | --- | --- |
| Field | Original | Japan |
| ORC-2 | C | R |
| ORC-7 | B | X |
| ORC-8 | O | C |
| ORC-9 | O | R |
| ORC12 | O | R |
| ORC13 | O | R |

### 4.1.5 OBR

Optionality of OBR segment is defined as follows. It is based on the actual implementation in Japan.

Table 4.1.5-1: OBR optionality

| Field | Original | Japan |
| --- | --- | --- |
| OBR-2 | C | R |
| OBR-6 | B | O |
| OBR-7 | C | O |
| OBR-9 | O | N |
| OBR-10 | O | N |
| OBR-11 | O | N |
| OBR-14 | B | N |
| OBR-15 | B | N |
| OBR-22 | C | O |
| OBR-25 | C | O |
| OBR-29 | O | C |
| OBR-37 | O | N |
| OBR-38 | O | N |
| OBR-39 | O | N |

### 4.1.6 OBX

Optionality of OBX segment is defined as follows. It is based on the actual implementation in Japan.

Table 4.1.6-1: OBX optionality

| Field | Original | Japan |
| --- | --- | --- |
| OBX-２ | C | R |
| OBX-5 | C | R |
| OBX-7 | O | N |
| OBX-9 | O | N |
| OBX-10 | O | N |
| OBX-12 | O | N |
| OBX-13 | O | N |
| OBX-17 | O | N |
| OBX-19 | O | N |

### 4.1.7 TQ1

Optionality of TQ1 segment is defined as follows. It is based on the actual implementation in Japan.

Table 4.1.7-1: TQ1 optionality

| Field | Original | Japan |
| --- | --- | --- |
| TQ1-7 | O | C |
| TQ1-9 | O | R |

### 4.1.8 IPC

Optionality of IPC segment is defined as follows. It is based on the actual implementation in Japan.

Table 4.1.8-1: IPC optionality

| Field | Original | Japan |
| --- | --- | --- |
| IPC-2 | R | O |
| IPC-4 | R | O |
| IPC-5 | O | R |

1. HL7 is the registered trademark of Health Level Seven International. [↑](#footnote-ref-1)
2. CDA is the registered trademark of Health Level Seven International. [↑](#footnote-ref-2)
3. DICOM is the registered trademark of the National Electrical Manufacturers Association for its standards publications relating to digital communications of medical information. [↑](#footnote-ref-3)
4. The length of the observation field is variable, depending upon value type. See *OBX-2 value type*. [↑](#footnote-ref-4)
5. May repeat for multipart, single answer results with appropriate data types, e.g., CE, TX, and FT data types. [↑](#footnote-ref-5)