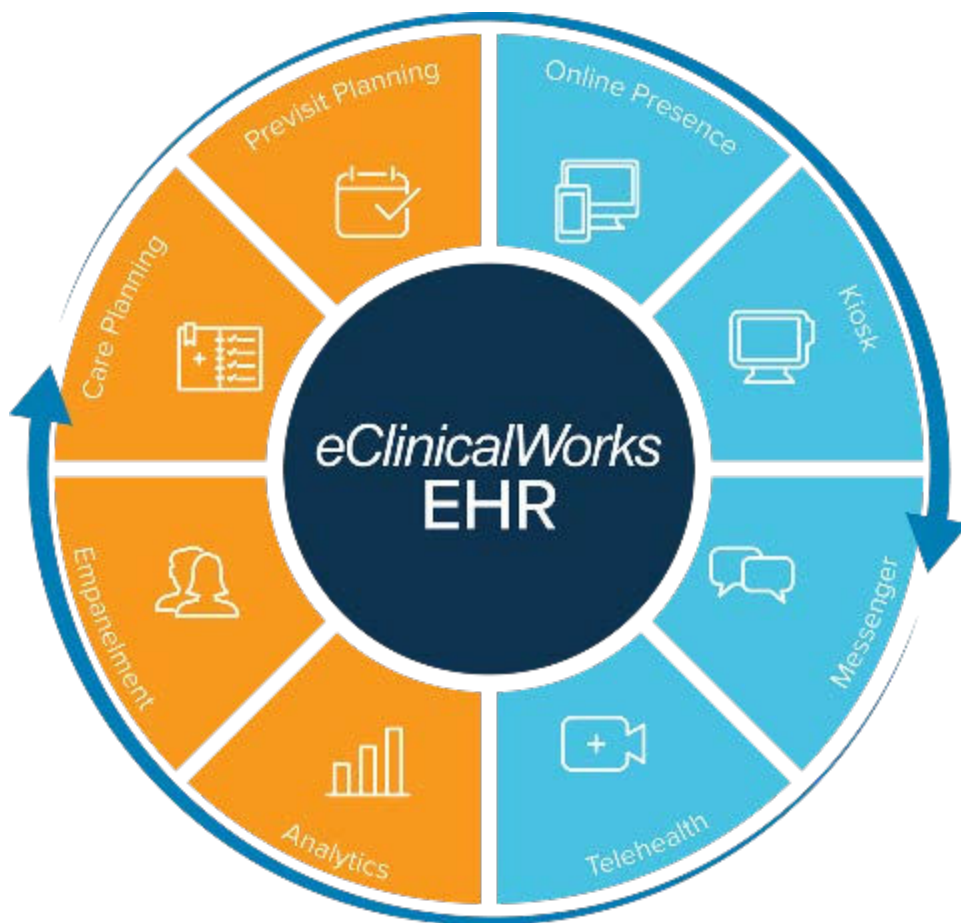


# eClinicalWorks

## eCLINICALWORKS HL7 RADIOLOGY RESULTS SPECIFICATIONS

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January 2020



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# TRANSACTION STRUCTURE

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The following table outlines the transaction structure section of the HL7 message:

Name	Description	Comments
MSH	Message Header	This segment should always be present in the ORU message.
PID	Patient Identification	There should be a PID segment to give the patient demographic information.
PV1	Patient Visit	PV1 segment, if present will be used for determining the Physician Information.
ORC	Common Order	PV1 segment, if present will be used for determining the Physician Information.
OBR	Observation Request	Order-level information is picked up from this segment and is a required segment.
OBX	Observation Result	Result-level information is picked up from this segment.
NTE	Notes and Comments	Segment contains the comments for the order. NTE segments can be received at either PID, OBR, or OBX level.

## Message Delimiters

---

The following table outlines the message delimiters:

Character Function	Character
Segment Terminator	<CR> LF
Field Separator	(pipe)
Component Separator	^ (caret)
Repetition Separator	~ (tilde)

## Conventions

The following table outlines the conventions:

Character Function	Character
Required field – this should always be sent	R
Optional field – this info will be processed if available	O
Not Supported	N
Conditional	C

## MSH - Message Header Segment

The Message Header (MSH) segment defines the intent, source, destination, and some particulars of the syntax of a message:

Field Name	Seg. Name	Comment	Len	R/O
Segment Type ID	MSH.00	MSH	3	R
Encoding Characters	MSH.01	^~\&	4	R
Sending Application	MSH.02	Sending Application	30	O
Sending Facility	MSH.03	Sending Facility	30	O
Receiving Application	MSH.04	Receiving Application	30	R
Receiving Facility	MSH.05	Receiving Facility	30	O
Message Date & Time	MSH.06	Format: YYYYMMDDHHMMSS	14	O
Security	MSH.07	Not Supported		N
Message Type	MSH.08	ORU^R01		R
Message Control ID	MSH.09	A number that uniquely identifies the message		O
Processing ID	MSH.10	P - Production T - Test	1	O
Version ID	MSH.11	2.x	8	O

### Sample Output:

```
MSH|^~\&|ECW|TEST6600|1100|BN|201912021451|RAD|ORU^R01||P|2.3
```

## PID - Patient Identification

The Patient Identifier (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, as most of the information does not change frequently:

Field Name	Seg. Name	Comment	Len	R/O
Segment Type ID	PID.00	PID	3	R
Sequence Number	PID.01	Serial Number starting from 1	4	R
Patient ID (Internal ID)	PID.02	Patient ID	20	O
Patient ID (External ID)	PID.03	Patient MRN	20	O
Alternate Patient ID	PID.04	eClinicalWorks Patient Account Number	20	O
Patient Name	PID.05	Last Name 60^First Name 60^MI 60	180	R
Mother's Maiden Name	PID.06	Not Supported		N
Date of Birth	PID.07	YYYYMMDD	8	R
Sex	PID.08	F - Female M - Male U - Unknown	1	O
Patient Alias	PID.09	Not Supported		N
Race	PID.10	Not Supported		N
Patient Address	PID.11	Addr1 60^Addr2 50^City 25^State 10^ZIP 12	161	O
County Code	PID.12	Not Supported		N
Phone # - Home	PID.13	NNNNNNNNNN	10	O
Phone # - Business	PID.14	Not Supported		N
Primary Language	PID.15	Not Supported		N
Marital Status	PID.16	Not Supported		N
Religion	PID.17	Not Supported		N
Patient Account Number	PID.18	eClinicalWorks Patient Account Number	20	O
SSN - Patient	PID.19	NNNNNNNNNN	9	O

**Sample Output:**

```
PID|1|7779|||Test^Test^||19670502|F||C|123 HIGH
WAY^^Westboro^MA^01581||
5085085085|||32801465|99999999|
```

## PV1 - Patient Visit

---

The PV1 segment is used to communicate information on a visit-specific basis and is not a required segment for the ORU message:

Field Name	Seg. Name	Comment	Len	R/O
Segment Type ID	PV1.00	PV1	3	R
Sequence Number	PV1.01	Serial number starting from 1	4	R
Patient Class	PV1.02	Not Supported		N
Assigned Patient Location	PV1.03	Account Number		O
Admission Type	PV1.04	Not Supported		N
Pre-admit Number	PV1.05	Not Supported		N
Prior Patient Location	PV1.06	Not Supported		N
Attending Doctor	PV1.07	Provider Code 20^Last Name 60^FirstName 60^MI 60	200	R
Referring Provider	PV1.08	Provider Code 20^Last Name 60^FirstName 60^MI 60	200	O
Visit ID	PV1.19	Customer-Specific Accessioning	11	O

**Sample Output:**

```
PV1|1||110011|||C9999^TEST^DOCTOR^L|G8888^REF^PHY|||38808
```

# ORC - Common Order Segment

The Common Order (ORC) segment is used to receive fields that are common to all results in the given message (all types of services that are requested). The ORC segment is not required in the ORU message:

Field Name	Seg. Name	Comment	Len	R/O
Segment Type ID	ORC.00	ORC	3	R
Order Control	ORC.01	RE or CA	4	O
Place Order Number	ORC.02	Customer-Specific Accessioning	11	O
Filler Order Number	ORC.03	Not Supported		N
Place Group Number	ORC.04	Not Supported		N
Order Status	ORC.05	Not Supported		N
Response Flag	ORC.06	Not Supported		N
Quantity/Timing	ORC.07	Not Supported		N
Parent	ORC.08	Not Supported		N
Date/Time of Transaction	ORC.09	YYYYMMDDHHMMSS	14	O
Entered By	ORC.10	Not Supported		N
Verified By	ORC.11	Not Supported		N
Ordering Provider	ORC.12	Provider Code 20^Last Name 60^FirstName 60^MI 60	200	O

### Sample Output:

```
ORC|NW|38808|||201503021451|||C9999^TEST^TEST^L
```

# OBR - Observation Request Segment

At least one OBR segment should be present for each Order Code associated with any PID segment. This segment is mandatory in ORU messages:

Field Name	Seg. Name	Comment	Len	R/O
Segment Type ID	OBR.00	OBR	3	R
Sequence No	OBR.01	Serial number starting from 1	4	R
Placer Order Number	OBR.02	Customer-Specific Accessioning required, if bi-directional (eCW unique ID in the order message needs to be in this field)	20	O
Filler Order Number	OBR.03	Vendor Specimen ID	35	R
Observation Battery Identifier	OBR.04	Test Code 60^TestName 200^Exam Type 20	255	R
Priority	OBR.05	Not Supported		N
Requested Date/Time	OBR.06	Not Supported		N
Procedure Date/Time #	OBR.07	YYYYMMDDHHMMSS	14	R
Observation End Date/Time #	OBR.08	Not Supported		N
URL Link	OBR.09	Clicking this link <a href="http://www.testpdflink.com">http://www.testpdflink.com</a> enables the practice to view the vendor website in eCW EMR	255	O
Collector Identifier	OBR.10	Not Supported		N
Specimen Action Code	OBR.11	Not Supported		N
Danger Code	OBR.12	Not Supported		N
Relevant Clinical Information	OBR.13	Not Supported		N
Transcribe Date/Time	OBR.14	YYYYMMDDHHMMSS	14	R
Ordering Provider	OBR.16	Provider Code 20^Last Name 60^FirstName 60^MI 60	200	R
Ordering Provider's Phone Number	OBR.17	Not Supported		N
Result Date/Time #	OBR.22	YYYYMMDDHHMMSS	14	R



Field Name	Seg. Name	Comment	Len	R/O
Performing Rad	OBR.23	RadName^RadAddr1^RadAddr2^ RadAddrCity^RadAddrState^ RadAddrZIP^RadPhone^RadDirTitle^Rad DirName	235	O
Result Status	OBR.25	P - Preliminary F - Final X or CA - Cancel A - Addendum	2	R
Priority	OBR.26	Not Supported		N
Courtesy Copies To	OBR.28	CC List ~ separated Provider Code 20^Last Name 60^FirstName 60^MI 60	200	O

**Sample Output:**

```
OBR|1|1532391|000462363|ABCON^ABDOMEN W
CONTRAST^CAT|||201912310749|||||ZHAC^Zhang^Chi^MD||||CAT|||F|||
|||BATJE^Wilis^Sam J^MD|
```

## OBX - Observation/Result Segment

---

This is a required segment. It contains the values corresponding to the results:

Field Name	Seg. Name	Comment	Len	R/O
Segment Type ID	OBX.00	OBX	3	R
Sequence Number	OBX.01	Serial number starting from 1	4	R
Type Value	OBX.02	ST - Standard Text TX - Text ED - Embedded PDF RP - URL link	2	R
Observation Identifier	OBX.03	Attribute code 20^Attribute Name 200	220	O
Observation Sub-ID	OBX.04	Not Supported		N
Observation Value	OBX.05	Observation Value	255	O
Units	OBX.06	Not Supported		N
References Range	OBX.07	Not Supported		N

Field Name	Seg. Name	Comment	Len	R/O
Abnormal Flags	OBX.08	Not Supported		N
Probability	OBX.09	Not Supported		N
Nature of Abnormal Test	OBX.10	Not Supported		N
Observation Result Status	OBX.11	Not Supported		N
Date Last Observation Normal Values	OBX.12	Not Supported		N
User Defined Access Checks	OBX.13	Not Supported		N
Date/Time of the Observation	OBX.14	Not Supported		N
Producer's ID	OBX.15	Code	60	O

**Sample Output:**

```
OBX|1||ABCON^ABDOMEN W CONTRAST||74160: CT ABDOMEN WITH
CONTRAST|||||F|
```

## NTE - Notes and Comments

---

The Notes and Comments (NTE) segment contains notes and comments for the lab results and it is an optional segment:

Field Name	Seg. Name	Comment	Len	R/O
Segment Type ID	NTE.00	NTE	3	R
Sequence Number	NTE.01	Serial number starting from 1	4	R
Source of Comment	NTE.02	Source of comment	8	O
Comment	NTE.03	Comment	255	R

**Sample Output:**

```
NTE|1| |NON-FASTING
```

# Sample Radiology Message

```

MSH|^~\&|RADS|NOB^|TEST|TEST|201912100834||ORU^R01|770093|P|2.4|
PID|1||N40843|N0058394|TEST^TEST^K||19540504|M||C|6 EDWARD
AVENUE^^ADAMS^MA^01220^^^|| (876)-098-0987|||CATST|N02518852|
PV1|1|O|MI^^^NOB|||ZHAC^Zhang^Chi^MD|""|||PR|||""|REG
REF||COM^|||||||||||||||||200701100016|||||""|
PD1|1||HERR^Jones^Mary^MD|
OBR|1|1532391|000462363|ABCON^ABDOMEN W
CONTRAST^CAT|||201912100749|||||ZHAC^Zhang^Chi^MD||||CAT|||F|||
|||BATJE^Wilis^Sam J^MD|
OBX|1||CAT-ABCON^ABDOMEN W CONTRAST|1|74160: CT ABDOMEN WITH
CONTRAST|||||C|
OBX|1||CAT-ABCON^ABDOMEN W CONTRAST|2|72193: CT PELVIS WITH
CONTRAST|||||C|
OBX|1||CAT-ABCON^ABDOMEN W CONTRAST|3| |||||C|
OBX|1||CAT-ABCON^ABDOMEN W CONTRAST|4|HISTORY: Abdominal pain|||||C|
OBX|1||CAT-ABCON^ABDOMEN W CONTRAST|5| |||||C|
OBX|1||CAT-ABCON^ABDOMEN W CONTRAST|6|PROCEDURE: Axial images were
helically acquired from the domes of the|||||C|
OBX|1||CAT-ABCON^ABDOMEN W CONTRAST|7|diaphragm through the pubic
symphysis following administration of IV|||||C|
OBX|1||CAT-ABCON^ABDOMEN W CONTRAST|8|contrast.|||||C|
OBX|1||CAT-ABCON^ABDOMEN W CONTRAST|9| |||||C|
OBX|1||CAT-ABCON^ABDOMEN W CONTRAST|10|COMPARISON: 8/23/2019 and
prior|||||C|
OBX|1||CAT-ABCON^ABDOMEN W CONTRAST|11| |||||C|
OBX|1||CAT-ABCON^ABDOMEN W CONTRAST|12|ABDOMEN FINDINGS: The liver,
spleen, adrenal glands, kidneys, pancreas|||||C|
OBX|1||CAT-ABCON^ABDOMEN W CONTRAST|13|and gallbladder are all
unremarkable in appearance.|||||C|
OBX|1||CAT-ABCON^ABDOMEN W CONTRAST|14| |||||C|
OBX|1||CAT-ABCON^ABDOMEN W CONTRAST|15|The bowel is not dilated.
There is no free air, free fluid or|||||C|

```

## Transaction Structure

## Sample Radiology Message

OBX|1||CAT-ABCON^ABDOMEN W CONTRAST|16|adenopathy. The lung bases are clear. The bony structures are|||||C|

OBX|1||CAT-ABCON^ABDOMEN W CONTRAST|17|unremarkable.|||||C|

OBX|1||CAT-ABCON^ABDOMEN W CONTRAST|18| |||||||C|

OBX|1||CAT-ABCON^ABDOMEN W CONTRAST|19|PELVIS FINDINGS: No pelvic masses are seen. The bowel in the pelvis is|||||C|

OBX|1||CAT-ABCON^ABDOMEN W CONTRAST|20|not dilated. The appendix is well seen, contrast-filled and|||||C|

OBX|1||CAT-ABCON^ABDOMEN W CONTRAST|21|unremarkable. No inflammatory processes are seen. There is no|||||C|

OBX|1||CAT-ABCON^ABDOMEN W CONTRAST|22|adenopathy or free fluid.|||||C|

OBX|1||CAT-ABCON^ABDOMEN W CONTRAST|23| |||||||C|

OBX|1||CAT-ABCON^ABDOMEN W CONTRAST|24| |||||||C|

OBX|1||CAT-ABCON^ABDOMEN W CONTRAST|25|IMPRESSION: No acute intra-abdominal or intrapelvic process. Normal|||||C|

OBX|1||CAT-ABCON^ABDOMEN W CONTRAST|26|appendix.|||||C|

OBX|1||CAT-ABCON^ABDOMEN W CONTRAST|27| |||||||C|

OBX|1||CAT-ABCON^ABDOMEN W CONTRAST|28|REPORT SIGNED: 12/10/2019 0834|||||C|

OBX|1||CAT-ABCON^ABDOMEN W CONTRAST|29|REPORT REPORTED AND SIGNED BY: SAm Willis, M.D.|||||C|

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