

Technical HL7 Conformance Profile

ENTERPRISE IMAGING

INBOUND ORU_R01

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Corporate address:

AGFA HealthCare

SIV Connectivity

Septestraat 27

2640 Mortsel

Belgium

+32 3 444 7588

<https://www.agfahealthcare.com/>

email : connectivity@agfa.com

Message Profile

Conformance parameters

Message Profile

- HL7 Version: 2.3, 2.3.1, 2.4, 2.5
- Profile Type: HL7

Encoding Method

ER7

Interaction 1

Dynamic Definition

- Accept Acknowledgement: NE
- Application Acknowledgement: AL
- Acknowledgement Mode: Deferred

Static Definition

- Message Type: ORU
- Trigger Event: R01
- Message Structure: ORU_R01

Message structure

MSH PID [PD1] [PV1] { [ORC] OBR [ZDS] {[NTE]} { Only the segments of the last iteration ORDER_OBSERVATION group will be implemented. OBX } }

MSH - Message Header

- Usage: Required
- Cardinality:1..1

Seq.	Name	Opt.	Card.	Type	Table	Contents
1	Field Separator	R	1..1	ST		
2	Encoding Characters	R	1..1	ST		
3	Sending Application	O	0..1	HD	HL70361	
3.1	namespace ID	R	1..1	IS	HL70363	e.g. SENDING RIS
4	Sending Facility	O	0..1	HD	HL70362	
4.1	namespace ID	R	1..1	IS	HL70363	e.g. SENDING FAC
7	Date/Time Of Message	O	0..1	TS		
7.1	Date/Time	R	1..1	NM		e.g. 20040328134602+0600
9	Message Type	R	1..1	CM_MSG	HL70076	
9.1	message type	R	1..1	ID	HL70076	e.g. ORU
9.2	trigger event	R	1..1	ID	HL70003	e.g. R01
9.3	message structure	O	0..	ID	HL70354	e.g. ORU_R01
10	Message Control ID	R	1..1	ST		
12	Version ID	R	1..1	VID	HL70104	
12.1	version ID	R	1..1	ID	HL70104	e.g. 2.4

3.1. namespace ID

code that identifies sending application

4.1. namespace ID

code that identifies sending facility

7. Date/Time Of Message

7.1. Date/Time

YYYYMMDD[HH[MM[SS]]][+/-ZZZZ]

If timezone information is present, it is taken into account for all date/time fields in the message. If timezone information is present also in other datetime fields, it overrules the timezone information in this field.

10. Message Control ID

unique number identifying the message

12. Version ID

Supported versions: 2.3 - 2.3.1 - 2.4 - 2.5.

12.1. version ID

HL7 version number

Segment group: PATIENT RESULT

- Usage: Required
- Cardinality:1..1

Segment group: PATIENT - PATIENT RESULT.PATIENT

- Usage: Required
- Cardinality:1..1

PID - Patient identification

- Usage: Required
- Cardinality:1..1

Seq.	Name	Opt.	Card.	Type	Table	Contents
3	Patient Identifier List	R	1..*	CX		
3.1	ID	R	1..1	ST		
3.4	assigning authority	O	0..	HD		
3.4.1	namespace ID	R	1..1	IS	HL70363	
3.4.2	universal ID	O	0..	ST		
3.4.3	universal ID type	O	0..	ID	HL70301	
3.5	identifier type code (ID)	O	0..	ID	HL70203	
5	Patient Name	R	1..*	XP		
5.1	family name	R	1..1	FN		
5.1.1	surname	R	1..1	ST		
5.1.2	own surname prefix	O	0..	ST		
5.1.3	own surname	O	0..	ST		
5.2	given name	O	0..	ST		

Seq.	Name	Opt.	Card.	Type	Table	Contents
5.3	second and further given names or initials thereof	O	0..	ST		
5.4	suffix (e.g., JR or III)	O	0..	ST		
5.5	prefix (e.g., DR)	O	0..	ST		
5.7	name type code	O	0..	ID	HL70200	
5.8	Name Representation code	O	0..	ID	HL70465	
7	Date/Time Of Birth	O	0..1	TS		
7.1	Date/Time	R	1..1	NM		
8	Administrative Sex	O	0..1	IS	HL70001	
11	Patient Address	O	0..*	XAD		
11.1	street address (SAD)	O	0..	SAD		
11.1.1	street or mailing address	O	0..	ST		
11.1.2	street name	O	0..	ST		
11.1.3	dwelling number	O	0..	ST		
11.2	other designation	O	0..	ST		
11.3	city	O	0..	ST		
11.4	state or province	O	0..	ST		
11.5	zip or postal code	O	0..	ST		
11.6	country	O	0..	ID	HL70399	
11.7	address type	O	0..	ID	HL70190	
11.8	other geographic designation	O	0..	ST		
11.9	county/parish code	O	0..	IS	HL70289	
13	Phone Number - Home	O	0..1	XTN		
13.1	Telephone Number	O	0..	TN		
13.2	telecommunication use code	R	1..1	ID	HL70201	
13.3	telecommunication equipment type (ID)	R	1..1	ID	HL70202	
13.4	Email address	O	0..	ST		
14	Phone Number - Business	O	0..1	XTN		
14.1	Telephone Number	O	0..	TN		
14.2	telecommunication use code	R	1..1	ID	HL70201	
14.3	telecommunication equipment type (ID)	R	1..1	ID	HL70202	
14.4	Email address	O	0..	ST		
19	SSN Number - Patient	O	0..1	ST		
23	Birth Place	O	0..1	ST		
29	Patient Death Date and Time	C	0..1	TS		
29.1	Date/Time	R	1..1	NM		
30	Patient Death Indicator	O	0..1	ID	HL70136	

3. Patient Identifier List

3.1. ID

Identification number or code for the patient.

3.4. assigning authority

The "Assigning authority" aka "Issuer of Patient ID" can consist of the following three parts:

- Namespace ID // Issuer of Patient ID
- Universal ID // Universal Entity ID
- Universal ID Type // Universal Entity ID Type

Namespace ID, or combination of Universal ID and Universal ID Type, unique define the issuer. Either only Namespace is specified, or only Universal ID and Universal ID Type are specified, or all three components are specified.

The combination of "Namespace ID" - "Universal ID" - "Universal ID Type" must be unique in EI! Though the component is not required, it is strongly advised to provide a value.

3.4.1. namespace ID

Identifier of the Assigning Authority that issued the patient id

If not available a unique internal assigning authority will be used

3.4.2. universal ID

Universal Entity ID.

This ID must be unique in EI and must be in the correct format, i.e. containing only digits and dots. Its total length <= 64 characters!

3.4.3. universal ID type

Universal Entity ID Type.

Only supported value :

-ISO

3.5. identifier type code (ID)

Supported values:

- PI = Patient Primary Identifier
- SS = Social Security number

* If empty: PI will be used by default

5. Patient Name

5.1. family name

When "Name representation code" = alphabetic or "Name type code" indicates maiden name is specified, following rule applies:

if Surname (PID.5.1.1) is empty, Own Surname Prefix (PID.5.1.2) and Own Surname (PID.5.1.3) are concatenated as last name.

5.1.1. surname

Patient's lastname

5.2. given name

Patient's firstname

5.3. second and further given names or initials thereof

Patient Middle Name

5.4. suffix (e.g., JR or III)

Patient's suffix

5.5. prefix (e.g., DR)

Patient's prefix

5.7. name type code

M = maiden name, only support storing last name for maiden name.

5.8. Name Representation code

Supported are :

- A or empty = Alphabetic
- I = Ideographic
- P = Phonetic

7. Date/Time Of Birth**7.1. Date/Time**

format YYYYMMDD[HH[MM[SS]]][+/-ZZZZ]

8. Administrative Sex**11. Patient Address****11.1. street address (SAD)**

This component specifies the street or mailing address of a person or institution.

11.1.1. street or mailing address

communication_channel.Street (if PID-11.1.2 is empty)

11.1.2. street name

communication_channel.Street

11.1.3. dwelling number

communication_channel.Streetnr

11.2. other designation

communication_channel.Address_Line1

11.3. city

municipality.name (if empty: Unknown is used)

11.4. state or province

communication_channel.Address_Line3

11.5. zip or postal code

municipality.zip (if empty: code UKW is used - mapping to name = Unknown)

11.6. country

communication_channel.country (3-digit code, if empty: code UKW - mapping to name = Unknown)

11.7. address type

communication_channel.communication_type (H - for home address / O - for office address / L maps to O / other codes map to H)

11.8. other geographic designation

communication_channel.Address_Line2

11.9. county/parish code

communication_channel.Address_Line4

13. Phone Number - Home

Segment is used for all home communication.

First one is the primary home communication channel

13.1. Telephone Number

In case of telephone number/fax number/cellular number, the phone number is put in this field [(999)] 999-9999 [X99999][C any text]

13.2. telecommunication use code

Required. If this is empty the communication cannot be registered. Supported are:

- Primary Residence Number (PRN)
- Work Number (WPN)
- Network (email) Address (NET)

13.3. telecommunication equipment type (ID)

Required. If this is empty the communication cannot be registered.

Supported are:

- Telephone (PH)
- Fax (FX)
- Cellular Phone (CP)

- Internet Address (Internet)

13.4. Email address

In case of Network Email Address, this needs to be filled in.

14. Phone Number - Business

First one is the primary home business channel

14.1. Telephone Number

In case of telephone number/fax number/cellular number, the phone number is put in this field [(999)] 999-9999 [X99999][C any text]

14.2. telecommunication use code

Required. If this is empty the communication cannot be registered.

Supported are:

- Primary Residence Number (PRN)
- Work Number (WPN)
- Other Residence Number (ORN)
- Network (email) Address (NET)

14.3. telecommunication equipment type (ID)

Required. If this is empty the communication cannot be registered.

Supported are:

- Telephone (PH)
- Fax (FX)
- Cellular Phone(CP)
- Internet Address (Internet)

14.4. Email address

In case of Network Email Address, this needs to be filled in.

19. SSN Number - Patient

Social security number of the patient.

23. Birth Place

29. Patient Death Date and Time

YYYYMMDD[HH[MM[SS]]][+/-ZZZZ] or ""

Condition Predicate:

If PID.30 has a value, this field also needs a value.

29.1. Date/Time

YYYYMMDD[HH[MM[SS]]][+/-ZZZZ]

If timezone information is present it overrules the timezone information available in MSH-7

30. Patient Death Indicator

Y or N

PD1 - patient additional demographic

- Usage: Optional
- Cardinality:0..1

Seq.	Name	Opt.	Card.	Type	Table	Contents
4	Patient Primary Care Provider Name & ID No.	O	0..1	XCN		
4.1	ID number (ST)	R	1..1	ST		
4.2	family name	O	0..	FN		
4.2.1	surname	O	0..	ST		
4.3	given name	O	0..	ST		
4.9	assigning authority	O	0..	HD		
4.9.1	namespace ID	R	1..1	IS	HL70363	

4. Patient Primary Care Provider Name & ID No.

4.1. ID number (ST)

Primary Care Physician code.

4.2. family name

Physician Family Name

4.3. given name

Physician given name.

4.9. assigning authority

Assigning Authority of physician code.

4.9.1. namespace ID

Identifier of the Assigning Authority that issued the physicians code. If empty, the default assigning authority will be taken.

Segment group: VISIT - PATIENT RESULT.PATIENT.VISIT

- Usage: Required
- Cardinality:1..1

PV1 - Patient visit

- Usage: Optional
- Cardinality:0..1
- Implementation note: Admission will be created, depending on the value of ORU Inbound pipeline property "Create admission for un-existing orders". Existing Admissions will never be updated when sending ORU messages.

Seq.	Name	Opt.	Card.	Type	Table	Contents
1	Set ID - PV1	O	0..1	SI		
2	Patient Class	R	1..1	IS	HL70004	
3	Assigned Patient Location	O	0..1	PL		
3.1	point of care	O	0..	IS	HL70302	e.g. Cardio department
3.2	room	O	0..	IS	HL70303	e.g. room 124
3.3	bed	O	0..	IS	HL70304	e.g. bed 3
3.4	facility (HD)	O	0..	HD		
3.4.1	namespace ID	R	1..1	IS	HL70363	
4	Admission Type	O	0..1	IS	HL70007	
7	Attending Doctor	O	0..1	XCN	HL70010	
7.1	ID number (ST)	R	1..1	ST		
7.2	family name	O	0..	FN		
7.2.1	surname	O	0..	ST		
7.3	given name	O	0..	ST		
7.4	second and further given names or initials thereof	O	0..	ST		
7.5	suffix (e.g., JR or III)	O	0..	ST		
7.6	prefix (e.g., DR)	O	0..	ST		
7.9	assigning authority	O	0..	HD		
7.9.1	namespace ID	R	1..1	IS	HL70363	
8	Referring Doctor	O	0..1	XCN	HL70010	
8.1	ID number (ST)	R	1..1	ST		
8.2	family name	O	0..	FN		
8.2.1	surname	O	0..	ST		
8.3	given name	O	0..	ST		
8.4	second and further given names or initials thereof	O	0..	ST		
8.5	suffix (e.g., JR or III)	O	0..	ST		
8.6	prefix (e.g., DR)	O	0..	ST		
8.9	assigning authority	O	0..	HD		
8.9.1	namespace ID	R	1..1	IS	HL70363	
15	Ambulatory Status	O	0..1	IS	HL70009	

Seq.	Name	Opt.	Card.	Type	Table	Contents
16	VIP Indicator	O	0..1	IS	HL70099	
17	Admitting Doctor	O	0..1	XCN	HL70010	
17.1	ID number (ST)	R	1..1	ST		
17.2	family name	O	0..	FN		
17.2.1	surname	O	0..	ST		
17.3	given name	O	0..	ST		
17.4	second and further given names or initials thereof	O	0..	ST		
17.5	suffix (e.g., JR or III)	O	0..	ST		
17.6	prefix (e.g., DR)	O	0..	ST		
17.9	assigning authority	O	0..	HD		
17.9.1	namespace ID	R	1..1	IS	HL70363	
18	Patient Type	O	0..1	IS	HL70018	
19	Visit Number	O	0..1	CX		
19.1	ID	R	1..1	ST		
19.4	assigning authority	O	0..	HD		
19.4.1	namespace ID	R	1..1	IS	HL70363	
44	Admit Date/Time	O	0..1	TS		
44.1	Date/Time	R	1..1	NM		e.g. 20040328134602+0600
45	Discharge Date/Time	O	0..1	TS		
45.1	Date/Time	R	1..1	NM		e.g. 20040328134602+0600

2. Patient Class

Patient Class

3.1. point of care

Department code of patient location.

When an unexisting department code is used, the department will be autocreated.

3.2. room

Room in the department

3.3. bed

Bed in the room

3.4. facility (HD)

Location facility.

3.4.1. namespace ID

Patients location facility code. When an unexisting facility code is used, the facility will be autocreated.

4. Admission Type

Type of admission, the circumstances under which the patient was or will be admitted.

7. Attending Doctor

Attending physician information.

7.1. ID number (ST)

physician identifier.

7.2.1. surname

Family name of the physician.

7.3. given name

Given name of the physician.

7.4. second and further given names or initials thereof

Middle name of the physician.

7.5. suffix (e.g., JR or III)

Name suffix, like SR

7.6. prefix (e.g., DR)

Name prefix, like Prof

7.9. assigning authority

Assigning Authority of attending physician code.

7.9.1. namespace ID

Identifier of the Assigning Authority that issued the attending physician code.

If empty, the default assigning authority will be taken.

8. Referring Doctor

Referring physician information (see detailed component description in PV1-7)

8.9. assigning authority

Assigning Authority of referring physician code.

8.9.1. namespace ID

Identifier of the Assigning Authority that issued the referring physician code.

If empty, the default assigning authority will be taken.

15. Ambulatory Status

Code indicating any permanent or transient handicapped conditions.

16. VIP Indicator

This field identifies the type of VIP.

- 1 set VIP or personnel as yes

- 0 set as no

17. Admitting Doctor

Admitting physician information (see detailed component description in PV1-7)

17.9. assigning authority

Assigning Authority of admitting physician code.

17.9.1. namespace ID

Identifier of the Assigning Authority that issued the admitting physician code.
If empty, the default assigning authority will be taken.

18. Patient Type

Site-specific values that identify the patient type.

19. Visit Number**19.1. ID**

Unique number identifying the admission.

19.4.1. namespace ID

Identifier of the Assigning Authority that issued the admission number. If empty, the default assigning authority will be taken.

44. Admit Date/Time

When no admit date/time is present in the message, a fallback is done to EVN-2.

44.1. Date/Time

YYYYMMDD[HH[MM[SS]]][+/-ZZZZ]

If timezone information is present it overrules the timezone information if available in MSH-7

45. Discharge Date/Time**45.1. Date/Time**

YYYYMMDD[HH[MM[SS]]][+/-ZZZZ]

If timezone information is present it overrules the timezone information if available in MSH-7

End of segment group VISIT

End of segment group PATIENT

Segment group: ORDER OBSERVATION

- Usage: Required
- Cardinality:1..*

ORC - Common Order

- Usage: Optional
- Cardinality:0..1

Seq.	Name	Opt.	Card.	Type	Table	Contents
1	Order Control	R	1..1	ID	HL70119	
2	Placer Order Number	O	0..1	EI		
2.1	entity identifier	R	1..1	ST		
2.2	namespace ID	R	1..1	IS	HL70363	
3	Filler Order Number	O	0..1	EI		
3.1	entity identifier	R	1..1	ST		
3.2	namespace ID	R	1..1	IS	HL70363	
5	Order Status	R	1..1	ID	HL70038	
7	Quantity/Timing	O	0..*	TQ		
7.4	start date/time	O	0..1	TS		
7.4.1	Date/Time	R	1..1	NM		e.g. 20040328134602+0600
7.5	end date/time	O	0..1	TS		
7.5.1	Date/Time	R	1..1	NM		e.g. 20040328134602+0600
7.6	priority	O	0..1	ST		
9	Date/Time of Transaction	O	0..1	TS		
9.1	Date/Time	R	1..1	NM		e.g. 20040328134602+0600
12	Ordering Provider	O	0..1	XCN		
12.1	ID number (ST)	R	1..1	ST		
12.2	family name	R	1..1	FN		
12.2.1	surname	R	1..1	ST		
12.3	given name	O	0..	ST		
12.4	second and further given names or initials thereof	O	0..	ST		
12.5	suffix (e.g., JR or III)	O	0..	ST		
12.6	prefix (e.g., DR)	O	0..	ST		
12.9	assigning authority	O	0..	HD		
12.9.1	namespace ID	R	1..1	IS	HL70363	
15	Order Effective Date/Time	O	0..1	TS		
15.1	Date/Time	R	1..1	NM		e.g. 20040328134602+0600
17	Entering Organization	O	0..1	CE		
17.1	identifier	R	1..1	ST		
17.2	text	O	0..	ST		
17.3	name of coding system	O	0..	IS	HL70396	
21	Ordering Facility Name	O	0..*	XON		
21.1	organization name	O	0..	ST		

Seq.	Name	Opt.	Card.	Type	Table	Contents
21.3	ID number (NM)	R	1..1	NM		
21.6	assigning authority	R	1..1	HD		
21.6.1	namespace ID	R	1..1	IS	HL70363	

1. Order Control

Fixed value: SC (Status changed)

2. Placer Order Number

2.1. entity identifier

Unique identifier for the order, defined by the order placer

2.2. namespace ID

Identifier of the Assigning Authority that issued the placer order number.
If empty, the default assigning authority will be taken.

3. Filler Order Number

This field holds accession number (order level) or filler order number.

It is not required.

If an order already exists, the report is matched against the order with "patient" and "accession number"

If no order exists, an ORU without ORC-3 will CREATE an order without an "accession number (order level)".

3.1. entity identifier

Unique identifier for the order, defined by the order filler

3.2. namespace ID

Identifier of the Assigning Authority that issued the filler order number.
If empty, the default assigning authority will be taken.

5. Order Status

Supported: IP (In Progress), CM (Completed), DC (Discontinued), CA (Cancelled), SC (Scheduled)

7. Quantity/Timing

Identical to the Quantity/Timing in OBR-Segment (OBR-27).

If values provided in these fields differ, EI will consider value provided in OBR-27.

7.4.1. Date/Time

YYYYMMDD[HH[MM[SS]]][+/-ZZZZ]

If timezone information is present it overrules the timezone information if available in MSH-7

7.5.1. Date/Time

YYYYMMDD[HH[MM[SS]]][+/-ZZZZ]

If timezone information is present it overrules the timezone information if available in MSH-7

7.6. priority

1) For existing sites (migration)

High Priority codes: A, T

Normal Priority codes: S, Unknown*

Low Priority Codes: C, P, R

2) For new installations

STAT priority code: S

Urgent priority codes: A, T

High Priority code: C

Normal Priority codes: P, Unknown*

Routine Priority Code: R

These values are configurable.

* A value for which no mapping is applicable.

9. Date/Time of Transaction

Fall back for ORC.15 being empty.

Used as order creation date/time.

When empty, the Date/Time of processing the message is taken

9.1. Date/Time

YYYYMMDD[HH[MM[SS]]][+/-ZZZZ]

If timezone information is present it overrules the timezone information if available in MSH-7

12. Ordering Provider

Requesting Physician. If this is not filled in OBR-16 is processed instead.

12.1. ID number (ST)

Unique code of physician providing the order.

12.2.1. surname

Family name of the physician.

12.3. given name

Given name of the physician.

12.4. second and further given names or initials thereof

Middle name of the physician.

12.5. suffix (e.g., JR or III)

Name suffix, like SR

12.6. prefix (e.g., DR)

Name prefix, like Prof

12.9. assigning authority

Assigning authority

12.9.1. namespace ID

Identifier of the Assigning Authority that issued the physician code.

If empty, the default assigning authority will be taken.

15. Order Effective Date/Time

Fall back for OBR.6 being empty. Used as order creation date/time. When empty, ORC.9 is taken.

15.1. Date/Time

YYYYMMDD[HH[MM[SS]]][+/-ZZZZ]

17. Entering Organization

Requesting department.

17.1. identifier

Code of the department.

17.2. text

Name of the department.

If empty, the identifier will be taken as name.

17.3. name of coding system

Identifier of the Assigning Authority that issued the department id

If empty, the default system assigning authority will be taken

21. Ordering Facility Name

Requesting hospital

21.1. organization name

Name of the hospital.

If empty, the identifier of the requesting hospital will be taken as name.

21.3. ID number (NM)

Identifier of the hospital

21.6. assigning authority

Assigning authority

21.6.1. namespace ID

Identifier of the Assigning Authority that issued the requesting hospital id.

If empty, the default assigning authority will be taken.

OBR

- Usage: Required
- Cardinality:1..1

Seq.	Name	Opt.	Card.	Type	Table	Contents
1	Set ID - OBR	O	0..1	SI		e.g. 1
2	Placer Order Number	O	0..1	EI		
2.1	entity identifier	R	1..1	ST		
2.2	namespace ID	R	1..1	IS	HL70363	
3	Filler Order Number	R	1..1	EI		
3.1	entity identifier	R	1..1	ST		
3.2	namespace ID	R	1..1	IS	HL70363	
4	Universal Service Identifier	R	1..1	CE		
4.1	identifier	R	1..1	ST		
4.2	text	O	0..	ST		
4.3	name of coding system	O	0..	IS	HL70396	
4.4	alternate identifier	O	0..	ST		
4.5	alternate text	O	0..	ST		
4.6	name of alternate coding system	O	0..	IS	HL70396	
6	Requested Date/Time	O	0..1	TS		
6.1	Date/Time	R	1..1	NM		e.g. 20040328134602+0600
13	Relevant Clinical Info.	O	0..1	ST		
16	Ordering Provider	O	0..1	XCN		
16.1	ID number (ST)	R	1..1	ST		
16.2	family name	O	0..	FN		
16.2.1	surname	O	0..	ST		
16.3	given name	O	0..	ST		
16.4	second and further given names or initials thereof	O	0..	ST		
16.5	suffix (e.g., JR or III)	O	0..	ST		
16.6	prefix (e.g., DR)	O	0..	ST		
16.9	assigning authority	O	0..	HD		
16.9.1	namespace ID	R	1..1	IS	HL70363	
18	Placer Field 1	R	1..1	ST		
19	Placer Field 2	O	0..1	ST		
20	Filler Field 1 +	O	0..1	ST		
22	Results Rpt/Status Chng - Date/Time +	O	0..1	TS		
22.1	Date/Time	R	1..1	NM		
24	Diagnostic Serv Sect ID	O	0..1	ID	HL70074	
25	Result Status +	O	0..1	ID	HL70123	e.g. P

Seq.	Name	Opt.	Card.	Type	Table	Contents
27	Quantity/Timing	O	0..*	TQ		
27.4	start date/time	O	0..1	TS		
27.4.1	Date/Time	R	1..1	NM		e.g. 20040328134602+0600
27.5	end date/time	O	0..1	TS		
27.5.1	Date/Time	R	1..1	NM		e.g. 20040328134602+0600
27.6	priority	O	0..1	ST		
28	Result Copies To	O	0..1	XCN		
28.1	ID number (ST)	R	1..1	ST		
28.2	family name	O	0..	FN		
28.2.1	surname	O	0..	ST		
28.3	given name	O	0..	ST		
28.4	second and further given names or initials thereof	O	0..	ST		
28.5	suffix (e.g., JR or III)	O	0..	ST		
28.6	prefix (e.g., DR)	O	0..	ST		
28.9	assigning authority	O	0..	HD		
28.9.1	namespace ID	R	1..1	IS	HL70363	
31	Reason for Study	O	0..2	CE		
31.1	identifier	R	1..1	ST		
31.2	text	O	0..	ST		
32	Principal Result Interpreter +	O	0..1	CM_NDL		
32.1	name	R	1..1	CN		
32.1.1	ID number (ST)	R	1..1	ST		
32.1.2	family name	R	1..1	FN		
32.1.3	given name	R	1..1	ST		
32.1.4	second and further given names or initials thereof	O	0..	ST		
32.1.5	suffix (e.g., JR or III)	O	0..	ST		
32.1.6	prefix (e.g., DR)	O	0..	ST		
32.1.9	assigning authority	O	0..	HD		
33	Assistant Result Interpreter +	O	0..1	CM_NDL		
33.1	name	R	1..1	CN		
33.1.1	ID number (ST)	R	1..1	ST		
33.1.2	family name	R	1..1	FN		
33.1.3	given name	R	1..1	ST		
33.1.9	assigning authority	O	0..	HD		
34	Technician +	O	0..1	CM_NDL		
34.5	room	O	0..	IS	HL70303	

Seq.	Name	Opt.	Card.	Type	Table	Contents
35	Transcriptionist +	O	0..*	CM_NDL		
35.1	name	R	1..1	CN		
35.1.1	ID number (ST)	R	1..1	ST		
35.1.2	family name	R	1..1	FN		
35.1.3	given name	O	0..	ST		
35.1.4	second and further given names or initials thereof	O	0..	ST		
35.1.5	suffix (e.g., JR or III)	O	0..	ST		
35.1.6	prefix (e.g., DR)	O	0..	ST		
35.1.9	assigning authority	O	0..	HD		
36	Scheduled Date/Time +	O	0..1	TS		
36.1	Date/Time	R	1..1	NM		e.g. 20040328134602+0600
43	Planned Patient Transport Comment	O	0..1	CE		
43.1	identifier	R	1..1	ST		
43.2	text	O	0..	ST		
43.3	name of coding system	O	0..	IS	HL70396	

1. Set ID - OBR

2. Placer Order Number

Identical to ORC-2

3. Filler Order Number

Identical to ORC-3

4. Universal Service Identifier

4.1. identifier

Code of the requested procedure definition

4.2. text

Description of the requested procedure definition

4.3. name of coding system

Primary use: Issuer of Procedure Code. When empty: EI_NOAA_EXTERNAL_PROC + suffix is used.

Alternative use: Fallback for Performing Department Code when no performing department is identified in OBR-43. OBR-4.3 will be used in combination with the default assigning authority in the lookup of the performing department.

4.4. alternate identifier

Code of the scheduled procedure step definition

4.5. alternate text

Description of the procedure step definition

4.6. name of alternate coding system

Coding system providing the code.

If empty: use issuer of order filler number. If there is no issuer for order filler number, use the default assigning authority.

6. Requested Date/Time

Used as order creation date/time.

When empty a fallback mechanism is in place.

First check for value in ORC.15, If empty: check ORC.9.

When both are empty, the value of OBR.27.4 is taken as order creation date/time.

6.1. Date/Time

YYYYMMDD[HH[MM[SS]]][+/-ZZZZ]

If timezone information is present it overrules the timezone information if available in MSH-7

13. Relevant Clinical Info.

Clinical Info.

16. Ordering Provider

The ordering provider should be the same as ORC-12.

If ORC-12 is filled in, this will not be processed.

16.1. ID number (ST)

Physician Identifier

16.2.1. surname

Family name of the physician.

16.3. given name

Given name of the physician.

16.4. second and further given names or initials thereof

Middle name of the physician.

16.5. suffix (e.g., JR or III)

Name suffix, like SR

16.6. prefix (e.g., DR)

Name prefix, like Prof

16.9. assigning authority

Assigning authority

16.9.1. namespace ID

Identifier of the Assigning Authority that issued the physician code.

If empty, the default assigning authority will be taken.

18. Placer Field 1

Accession number of the requested procedure.

19. Placer Field 2

Requested procedure ID

20. Filler Field 1 +

Scheduled Procedure Step ID

22. Results Rpt/Status Chng - Date/Time +

Report Modification Date or Addendum Modification Date.

22.1. Date/Time

The modification date of the report

24. Diagnostic Serv Sect ID

Modality type (Used when Procedure Definition is created on the fly).

25. Result Status +

report status

Default values (property 'ORU controlled reporting workflow' is set to false)

- P preliminary report
- F signed report
- C correction to results
- D report deleted
- X no results available, order cancelled

ORU controlled reporting workflow (property 'ORU controlled reporting workflow' is set to true)

- UP unapproved preliminary report
- P approved preliminary report
- F signed report
- W wet read report
- PA preliminary addendum
- A final addendum
- D report deleted

27. Quantity/Timing

Identical to the Quantity/Timing in ORC-Segment (ORC-7).

If values provided in these fields differ, EI will consider value provided in OBR-27.

27.4. start date/time

Used as the requested procedure scheduled study date/time and the scheduled procedure step start date/time.

When the value is empty, the value of OBR.36 is taken as requested procedure study date/time and scheduled procedure step start date/time.

27.4.1. Date/Time

YYYYMMDD[HH[MM[SS]]][+/-ZZZZ]

If timezone information is present it overrules the timezone information if available in MSH-7

27.5. end date/time

Used as scheduled procedure step end date/time.

27.5.1. Date/Time

YYYYMMDD[HH[MM[SS]]][+/-ZZZZ]

If timezone information is present it overrules the timezone information if available in MSH-7

27.6. priority

1) For existing sites (migration)

High Priority codes: A, T

Normal Priority codes: S, Unknown*

Low Priority Codes: C, P, R

2) For new installations

STAT priority code: S

Urgent priority codes: A, T

High Priority code: C

Normal Priority codes: P, Unknown*

Routine Priority Code: R

These values are configurable.

* A value for which no mapping is applicable.

28. Result Copies To**28.1. ID number (ST)**

code of the physician

28.2.1. surname

Family name of the physician.

28.3. given name

Given name of the physician.

28.4. second and further given names or initials thereof

Middle name of the physician.

28.5. suffix (e.g., JR or III)

Name suffix, like SR

28.6. prefix (e.g., DR)

Name prefix, like Prof

28.9. assigning authority

Assigning authority

28.9.1. namespace ID

Identifier of the Assigning Authority that issued the physician code.
If empty, the default assigning authority will be taken.

31. Reason for Study**31.2. text**

Text containing reason for study.

32. Principal Result Interpreter +

1) Default behaviour (property "ORU controlled reporting workflow" is set to false) final report :

- Physician that validated the report
 - if first iteration of OBR-33 is empty, this physician will also handled as author of the report.
- preliminary report:
- physician will be handled as author of the report.

2) ORU controlled reporting workflow (property "ORU controlled reporting workflow" is set to true)

- The physician specified in this field, will always be the attending physician which will get assigned to the signoff task in case the report is preliminary.
- If no entry is specified, the first physician in OBR-33 will get the task assigned

32.1.1. ID number (ST)

Code identifying the physician.

32.1.2. family name

Family name of the physician.

32.1.3. given name

Given name of the physician.

32.1.4. second and further given names or initials thereof

Middle name of the physician.

32.1.5. suffix (e.g., JR or III)

Name suffix, like SR

32.1.6. prefix (e.g., DR)

Name prefix, like Prof

32.1.9. assigning authority

Identifier of the Assigning Authority that issued the principle result interpreter code.

If empty, the default assigning authority will be taken.

33. Assistant Result Interpreter +

1) Default behaviour (property "ORU controlled reporting workflow" is set to false) final report :

- the first iteration will be handled as the author of the report.
- All other iterations are reviewers. preliminary report:
- all the iterations are handled as reviewers.

2) ORU controlled reporting workflow (property "ORU controlled reporting workflow" is set to true)

- The physician specified in the first field, will always be the author of the report. If no entry is specified in OBR-32, the first physician in OBR-33 is assigned the created signoff task in case the report is preliminary.
- All the other iterations are reviewers.

33.1.1. ID number (ST)

Code identifying the physician.

33.1.2. family name

Family name of the physician.

33.1.3. given name

Given name of the physician.

33.1.9. assigning authority

Identifier of the Assigning Authority that issued the assistant result interpreter code.

If empty, the default assigning authority will be taken.

34. Technician +

Only room is supported.

34.5. room

Acquisition room.

35. Transcriptionist +

35.1.1. ID number (ST)

Code identifying the transcriptionist.

35.1.2. family name

Family name of the transcriptionist.

35.1.3. given name

Given name of the transcriptionist.

35.1.4. second and further given names or initials thereof

Middle name of the transcriptionist.

35.1.5. suffix (e.g., JR or III)

Name suffix, like SR

35.1.6. prefix (e.g., DR)

Name prefix, like Prof

35.1.9. assigning authority

Identifier of the Assigning Authority that issued the transcriptionist code.

If empty, the default assigning authority will be taken.

36. Scheduled Date/Time +

Used for requested procedure scheduled study date/time and scheduled procedure step date/time when OBR.27.4 is empty.

36.1. Date/Time

YYYYMMDD[HH[MM[SS]]][+/-ZZZZ]

If timezone information is present it overrides the timezone information if available in MSH-7

43. Planned Patient Transport Comment

This field can be used to provide performing department.

When the performing department code provided in OBR-43.1 (with or without an issuer in OBR-43.3) is not found in the system, it will be created. When no name is present, the department code is used as the department name.

Another way to provide the performing department is by means of OBR-4.3 (universal service identifier) . If present the value will be used in combination with the default assigning authority in the lookup.

43.1. identifier

performing department code.

43.2. text

performing department name.

43.3. name of coding system

issuer of performing department code.

ZDS

- Usage: Optional

- Cardinality:0..1

Seq.	Name	Opt.	Card.	Type	Table	Contents
1	Reference Pointer	O	0..1	RP		
1.1	pointer	R	1..1			

1.1. pointer

An instance UID used by EI to identify the study.

NTE - Notes and Comments

- Usage: Optional
- Cardinality:0..*

Seq.	Name	Opt.	Card.	Type	Table	Contents
3	Comment	O	0..*	FT		
4	Comment Type	R	1..1	CE	HL70364	
4.1	identifier	R	1..1	ST		

3. Comment

Plain text of Clinical info (Comment type CI) or Procedure comment(Comment type PC)

4. Comment Type

4.1. identifier

Supported values: CI (clinical info), PC (procedure comment)

Segment group: OBSERVATION

- Usage: Required
- Cardinality:1..*
- Implementation note: Only the segments of the last iteration ORDER_OBSERVATION group will be implemented.

OBX - Observation/Result

- Usage: Required
- Cardinality:1..1

Seq.	Name	Opt.	Card.	Type	Table	Contents
1	Set ID - OBX	R	1..1	SI		
2	Value Type	R	1..1	ID	HL70125	e.g. FT
3	Observation Identifier	R	1..1	CE		
3.1	identifier	R	1..1	ST		
3.4	alternate identifier	O	0..	ST		e.g. ACC145278
4	Observation Sub-Id	O	0..1	ST		e.g. conclusion
5	Observation Value	R	1..1	VARIES		
11	Observation Result Status	R	1..1	ID	HL70085	
13	User Defined Access Checks	O	0..*	ST		
14	Date/Time of the Observation	O	0..1	TS		
14.1	Date/Time	R	1..1	NM		e.g. 20040328134602+0600
16	Responsible Observer	O	0..*	XCN		
16.1	ID number (ST)	R	1..1	ST		
16.2	family name	O	0..	FN		
16.2.1	surname	O	0..	ST		
16.3	given name	O	0..	ST		

Seq.	Name	Opt.	Card.	Type	Table	Contents
16.9	assigning authority	R	1..1	HD		
16.9.1	namespace ID	R	1..1	IS	HL70363	

1. Set ID - OBX

<DataType=SQ>

2. Value Type

Supported values:

In case of reports:

- FT (For text report content)
- RP (For reports send as PDF with reference pointer)
- ED (For reports send as Base64 encoded data)

In case of attachments, 'Pregnancy information' or 'Patient Arrived information':

- TX (For Single value- or Message board 'Text' Attachment, 'Keyword' Attachment, 'Pregnancy information' or 'Patient Arrived information') - (Attachment level: Patient, Study, Order)
- FT (For Single value- or Message board 'Text' Attachment, 'Keyword' Attachment) - (Attachment level: Patient, Study, Order)
- RP (For 'PDF/Image' Attachment - Reference Pointer) - (Attachment level: Study, Order)
- ED (For 'PDF/Image' Attachment - Base64 Encoded Encapsulated Data) - (Attachment level: Study, Order)

3.1. identifier

(1) OBX segment holding Report information:

- &GDT for specifying general report.
- &ADT for specifying addendum report.

Remark:

- When OBX-2 = FT --> Only 1 OBX segment with a general report in OBX-5 and multiple addendum OBX-segments are allowed.
- When OBX-2 = RP or ED --> only 1 OBX segment is allowed. The OBX should specify a general report. When an addendum is present, it must be included in the general report.

(2) OBX segment holding Attachment information:

Value of this field must correspond with an attachment code as defined in the Administrator desktop. The following attachment codes are already delivered in dedicated HL7 fields and therefore should not be processed as attachments in OBX-segments:

- REASONFORSTUDY (OBR-31)
- PROCEDURECOMMENT (NTE-3)
- CLINICALINFO (OBR-13 or NTE-3)

Remarks :

An ORU message can contain patient level, order level, study level and report level attachments. When the patient and the order are created by means of the ORU message, the patient/order/study-level attachments, 'Patient Arrived information' and 'Pregnancy information' are also processed. When the patient and the order already exist, only the report-level attachments are processed. If the attachment code is not setup as a Patient-, Study- or Order-level attachment in the Administrator Desktop, the attachment will not be processed.

Handling of multiple attachments with the same attachment code OBX-3.1:

- Single value 'Text' attachment: Concatenate the multiple texts with newline separation.
- Message board 'Text' attachment: Each attachment gets added as a separate message board item.
- 'Keyword' Attachment: When the attachment is setup as a single-select keyword category, these attachments are considered as 'not processable'. When the attachment is setup as a multi-select keyword category, each keyword is properly added to the list of keywords for that attachment.
- 'PDF/Image' Attachment: Each attachment gets added as a new document/image.

(3) OBX segment with 'Patient Arrived information': The value PATIENT_ARRIVED indicates that OBX-5 holds the patient arrival status.

(4) OBX segment holding 'Pregnancy information': The value PREGNANT indicates that OBX-5 holds pregnancy information.

3.4. alternate identifier

OBX segment holding Attachment information:

- In case of order/report level attachment: Empty
- In case of study-level attachment: Accession number of the procedure/study the attachment belongs to - When no specific accession number is passed in this component, the study-level attachments are to be added to all requested procedures this report is linked to.

Example

An ORU message is sent containing two procedures belonging to the same service request and it contains two OBX-segments with attachments:

- one attachment with code STDAT20 is a 'Study-level' attachment for requested procedure with accession number ACC123
- the other attachment with code SCANNEDREQUEST is an 'Order-level' attachment which applies to both requested procedures

OBX|1|RP|STDAT20^^^ACC123||\attachmentserver\foldername\attachmentfilename1.pdf||

OBX|2|RP|SCANNEDREQUEST||\attachmentserver\foldername\attachmentfilename2.pdf||

Attachment with code STDAT20 is linked to procedure with accession number ACC123 Attachment with code SCANNEDREQUEST is linked to the order.

4. Observation Sub-Id

sub identifier for this observation

5. Observation Value

(1) OBX segment holding Report information:

- When OBX-2 = FT --> Plain text report
- When OBX-2 = RP --> Path and file name of the report as a PDF
- When OBX-2 = ED -->
 - OBX-5.2 = TEXT
 - OBX-5.3 = PDF
 - OBX-5.4 = Base64
 - OBX-5.5 = a string containing the Base64 encoded PDF report (with/without addenda)

(2) OBX segment holding Attachment information:

- For Single value- or Message board 'Text' Attachment: Plain text
- For 'Keyword' Attachment: Text that matches a pre-configured keyword value for the corresponding keyword attachment code OBX-3.1

If the value doesn't exist, a new keyword value is created and set inactive and searchable.

- For 'PDF/Image' Attachment - Reference Pointer: Path and file name
- For 'PDF/Image' Attachment - Base64 Encoded Encapsulated Data':
 - In case of a PDF:
 - OBX-5.2 = TEXT
 - OBX-5.3 = PDF
 - OBX-5.4 = Base64
 - OBX-5.5 = a string containing the Base64 encoded attachment data
 - In case of an image:
 - OBX-5.2 = IM
 - OBX-5.3 = JPEG, TIFF, GIF, PNG, BMP, JPG, TIF (the type of image)
 - OBX-5.4 = Base64
 - OBX-5.5 = a string containing the Base64 encoded attachment data

Remarks:

An attachment can be deleted when the content of OBX-5 contains two double quotes (""), except for message board 'Text' attachments where only the HL7-created ones will be deleted.

If the 'Text' attachments contain the formatting command .br surrounded by the escape character specified in the HL7 message, a new line (carriage return + line feed) must replace that string when this data is being updated or inserted.

(3) OBX segment with 'Patient Arrived information': YES/NO

(4) OBX segment holding Pregnancy information: YES/NO/UNKNOWN

11. Observation Result Status

Only required when ORU controlled reporting workflow is set to False (disabled). If value is not present a fallback is done to OBR-25. Supported values:

- F (final results)
- P (preliminary)
- C (correction)
- X (report body no longer found - overwrite) Report gets final status.
- D (deleted)

13. User Defined Access Checks

Used to mark the message board text attachment as 'public' (PUB) or 'private' (PRV) (optional).

Supported values:

- PUB
- PRV

When empty: PUB is assumed.

14. Date/Time of the Observation

The creation date of the report or message board item

The creation date (YYYYMMDD[HH[MM[SS]]][+/-ZZZZ]) of the message board item or the date of the last menstrual period (YYYYMMDD)

14.1. Date/Time

YYYYMMDD[HH[MM[SS]]][+/-ZZZZ]

If timezone information is present it overrules the timezone information if available in MSH-7

If no date time is filled in, the report will be saved with the datetime of saving/updating.

For message board text attachments: Date/time of the creation of the message board item (format: YYYYMMDD[HH[MM[SS]]][+/-ZZZZ] (optional) When empty or contains an invalid date/time, the date/time value present in MSH-7 is used.

16. Responsible Observer

For message board text attachments:

The user that added the message board text attachment item (optional). When empty or the user is not known in EI, the 'System Administrator' user is used.

End of segment group OBSERVATION

End of segment group ORDER_OBSERVATION

End of segment group PATIENT_RESULT