

2.24.1 MSH - message header segment

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

Figure 2-8. MSH attributes

SEQ	LEN	DT	OPT	RP/#	TBL#	ITEM #	ELEMENT NAME
1	1	ST	R			00001	Field Separator
2	4	ST	R			00002	Encoding Characters
3	180	EI	O			00003	Sending Application
4	180	EI	O			00004	Sending Facility
5	180	EI	O			00005	Receiving Application
6	180	EI	O			00006	Receiving Facility
7	26	TS	O			00007	Date/Time Of Message
8	40	ST	O			00008	Security
9	7	CM	R		0076 0003	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	2	ID	O			00017	Country Code
18	10	ID	O	Y	0211	00692	Character Set
19	60	CE	O			00693	Principal Language Of Message
20	20	ID	O			01317	Alternate Character Set Handling Scheme

Example MSH Segment

MSH|^~\&|CERNER||PriorityHealth|||ORU^R01|Q479004375T431430612|P|2.3

3.3.2 PID - patient identification segment

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.

Figure 3-2. PID attributes

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	20	CX	R	Y		00106	Patient Identifier List
4	20	CX	B	Y		00107	Alternate Patient ID - PID
5	48	XP	R	Y		00108	Patient Name
6	48	XP	O	Y		00109	Mother's Maiden Name
7	26	TS	O			00110	Date/Time of Birth
8	1	IS	O		0001	00111	Sex
9	48	XP	O	Y		00112	Patient Alias
10	80	CE	O	Y	0005	00113	Race
11	106	XAD	O	Y		00114	Patient Address
12	4	IS	B		0289	00115	County Code
13	40	XTN	O	Y		00116	Phone Number - Home
14	40	XTN	O	Y		00117	Phone Number - Business
15	60	CE	O		0296	00118	Primary Language
16	80	CE	O		0002	00119	Marital Status
17	80	CE	O		0006	00120	Religion
18	20	CX	O			00121	Patient Account Number
19	16	ST	B			00122	SSN Number - Patient
20	25	DLN	O			00123	Driver's License Number - Patient
21	20	CX	O	Y		00124	Mother's Identifier
22	80	CE	O	Y	0189	00125	Ethnic Group
23	60	ST	O			00126	Birth Place
24	1	ID	O		0136	00127	Multiple Birth Indicator
25	2	NM	O			00128	Birth Order
26	80	CE	O	Y	0171	00129	Citizenship
27	60	CE	O		0172	00130	Veterans Military Status
28	80	CE	O		0212	00739	Nationality
29	26	TS	O			00740	Patient Death Date and Time
30	1	ID	O		0136	00741	Patient Death Indicator

Example PID Segment

PID|||001677980||SMITH^CURTIS||19680219|M|||||||929645156318|123456789

7.3.1 OBR - observation request segment

In the reporting of clinical data, the OBR serves as the report header. It identifies the observation set represented by the following atomic observations. It includes the relevant ordering information when that applies. It contains many of the attributes that usually apply to all of the included observations.

When a set of observations is ordered, the order message contains an OBR segment. However, observations can be collected and reported without an antecedent order. When observations are reported, the report message also includes one or more OBR segments. So, the OBR segment is like a turn-around document. Some fields in the OBR segment apply only to the ordering message and some to the reporting message. To those familiar with healthcare procedures, these should be obvious from their names (e.g., transcriptionist or principal result interpreter could only apply to the reporting phase). However, we have also flagged them in *Figure 7-4* to indicate whether placer, filler, or both may send data in a given field.

Figure 7-4. OBR attributes

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	200	CE	R			00238	Universal Service ID
5	2	ID	X			00239	Priority
6	26	TS	X			00240	Requested Date/time
7	26	TS	C			00241	Observation Date/Time #
8	26	TS	O			00242	Observation End Date/Time #
9	20	CQ	O			00243	Collection Volume *
10	60	XCN	O	Y		00244	Collector Identifier *
11	1	ID	O		0065	00245	Specimen Action Code *
12	60	CE	O			00246	Danger Code
13	300	ST	O			00247	Relevant Clinical Info.
14	26	TS	C			00248	Specimen Received Date/Time *
15	300	CM	O		0070	00249	Specimen Source *
16	80	XCN	O	Y		00226	Ordering Provider
17	40	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	CM	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	CM	O			00259	Parent Result +
27	200	TQ	O	Y		00221	Quantity/Timing
28	150	XCN	O	Y/5		00260	Result Copies To
29	150	CM	O			00261	Parent *
30	20	ID	O		0124	00262	Transportation Mode
31	300	CE	O	Y		00263	Reason for Study
32	200	CM	O			00264	Principal Result Interpreter +
33	200	CM	O	Y		00265	Assistant Result Interpreter +
34	200	CM	O	Y		00266	Technician +
35	200	CM	O	Y		00267	Transcriptionist +
36	26	TS	O			00268	Scheduled Date/Time +
37	4	NM	O			01028	Number of Sample Containers *
38	60	CE	O	Y		01029	Transport Logistics of Collected Sample *
39	200	CE	O	Y		01030	Collector's Comment *
40	60	CE	O			01031	Transport Arrangement Responsibility
41	30	ID	O		0224	01032	Transport Arranged
42	1	ID	O		0225	01033	Escort Required
43	200	CE	O	Y		01034	Planned Patient Transport Comment
44	60	XON	O	Y		01311	Ordering Facility Name
45	106	XAD	O	Y		01312	Ordering Facility Address
46	48	XTN	O	Y		01313	Ordering Facility Phone Number
47	106	XAD	O	Y		01314	Ordering Provider Address

Example ORB Segment

OBR|1|341856649^HNAME_ORDERID|000002006326002362|648088^Basic Metabolic
 Panel|||20061122151600|||||||1620^Hooker^Robert^L|||||20061122154733|||F|||||||20061122140000

7.3.2 OBX - observation/result segment

The OBX segment is used to transmit a single observation or observation fragment. It represents the smallest indivisible unit of a report. Its structure is summarized in *Figure 7-5*.

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 4.2, “Order Message Definitions”). In this case, the OBX carries clinical information needed by the filler to interpret the observation the filler makes. For example, an OBX is needed to report the inspired oxygen on an order for a blood oxygen to a blood gas lab, or to report the menstrual phase information which should be included on an order for a pap smear to a cytology lab. Appendix 7A includes codes for identifying many of pieces of information needed by observation producing services to properly interpret a test result. OBX is also found in other HL7 messages that need to include patient clinical information.

Figure 7-5. OBX attributes

SEQ	LEN	DT	OPT	RP/#	TBL#	ITEM#	ELEMENT NAME
1	10	SI	O			00569	Set ID - OBX
2	3	ID	C		0125	00570	Value Type
3	590	CE	R			00571	Observation Identifier
4	20	ST	C			00572	Observation Sub-ID
5	65536 ¹	*	C	Y ²		00573	Observation Value
6	60	CE	O			00574	Units
7	60	ST	O			00575	References Range
8	5	ID	O	Y/5	0078	00576	Abnormal Flags
9	5	NM	O			00577	Probability
10	2	ID	O	Y	0080	00578	Nature of Abnormal Test
11	1	ID	R		0085	00579	Observ Result Status
12	26	TS	O			00580	Date Last Obs Normal Values
13	20	ST	O			00581	User Defined Access Checks
14	26	TS	O			00582	Date/Time of the Observation
15	60	CE	O			00583	Producer's ID
16	80	XCN	O	Y		00584	Responsible Observer
17	60	CE	O	Y		00936	Observation Method

Example OBX Segment

OBX|5|NM|GLU^Glucose Lvl||59|mg/dL|65-99^65^99|L||F||20061122154733

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

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