MEDITECH HL7 Results Reporting to Other Vendor System for Laboratory, Microbiology, Pathology, and Blood Bank

Version: 2.4

May 19, 2021

Reference number: R1820

Copyright © 2021 by Medical Information Technology, Inc. MEDITECH Circle, Westwood, Massachusetts 02090 (781) 821-3000

THIS INFORMATION IS PROPRIETARY AND SHOULD BE TREATED ACCORDINGLY.

Table of Contents

- General Comments
- General Message Format and Functionality
- Result Message Structure
- Sample Messages
- Network Communications Protocol and Data Framing
- Record Layouts Other Vendor to MEDITECH Laboratory System
- Record Layouts MEDITECH Laboratory System to Other Vendor
- Appendix

General Comments

This specification defines an interface between the MEDITECH system and an other vendor system for the purposes of sending laboratory, microbiology, pathology, and blood bank results from the MEDITECH Laboratory application.

The version of this specification is COMP, meaning the message formats represent the complete set of HL7 version from 2.1 through 2.5.1. The appendix section identifies any discrepancies in field definitions pertaining to these various HL7 versions.

The message reporting formats contained in this document include both discrete and text.

Both the HL7 version and the reporting format are determined by interface setup parameters to meet the reporting requirements of other vendor systems.

This document also covers the sequencing of records as they are sent and received by MEDITECH and the protocol that is to be used for communications between MEDITECH and the other vendor.

A copy of this specification should be provided to the other vendor well in advance of MEDITECH software delivery so that any questions or concerns of the other vendor can be resolved as soon as possible.

Proper cabling between the MEDITECH machine and the other vendor machine will need to be provided by the hospital. MEDITECH can assist in the specification of the correct cable configuration to be used for the inter-machine link.

It is possible that additional devices such as modems or protocol converter units (PCUs) may need to be purchased by the hospital depending on the hardware platform of the other vendor system or on the proximity of the MEDITECH machine to the other vendor machine. MEDITECH may be of some assistance in determining specific needs in this area.

The machine to machine communications will need to be thoroughly tested by MEDITECH and the other vendor prior to any application level testing.

General Message Format and Functionality

GENERAL MESSAGE FORMAT

Result data will be passed from MEDITECH Laboratory system to the Other vendor system in discrete or textual MESSAGES. Pathology results will only be sent in textual format. A single message may contain multiple variable length data transactions referred to as SEGMENTS. The number, type and content of segments in a given message will be determined based upon thetype of message being sent. Each segment will begin with a 3 character code known as the Segment ID, followed by a number of fields which are delimited by the Field Separator character. Each segment will be terminated with a carriage return.

RESULT MESSAGES FROM MEDITECH

Messages will be passed from the MEDITECH laboratory system to the other vendor system when:

- 1. A result is entered and verified on the MEDITECH Laboratory system.
- 2. A result is changed or deleted, and the new result subsequently verified, on the meditech laboratory system for a result that had been previously transmitted to the other vendor system.

In each case, a Result Message (ORU) will be sent. Each result message will be restricted to one patient.

A Result Message will be composed of these segments:

```
MSH Message Header
PID Patient Identification
                              (Only one patient per message)
NK1 Next of Kin
                               (Optional and multiple)
PV1 Patient Visit
                              (Only one patient per message)
PV2 Patient Visit Addl Info
                              (Only one patient per message)
PD1 Patient Addl Demographics (Only one patient per message)
OBR Observation Request
                              (can be multiple)
TQ1 Timing Quantity
                              (2.5+ HL7 versions only)
NTE Notes and Comments
                              (Optional and multiple)
SPM Specimen
                              (2.5+ HL7 versions only)
SAC Container Detail
                              (2.5+ HL7 versions only)
                              (Multiple)
OBX Observation Result
NTE Notes and Comments
                              (Optional and multiple)
```

MEDITECH expects an Acknowledgement Message (ACK) from the Other Vendor System upon receipt of the Result message. Meditech will not accept any Deferred Acknowledgement Messages from the Other Vendor System, as may be defined in the HL7 v2.3 specifications.

Result Message Structure

Results will be sent from the MEDITECH system using the HL7 message type ORU (Observation Result Unsolicited). Laboratory, Microbiology and Blood Bank results are sent in discrete values or textual format. Pathology results are sent in textual format only.

The OBR segment identifies the MEDITECH order for which results are being reported. ALL results associated with the given order must be reported with OBX segments following the OBR segment in the single result message.

Result messages will be formatted with these segments:

MSH - Required

PID - Required, one per message

NK1 - Optional, multiple per message

PV1 - Required, one per message

PV2 - Required, one per message

PD1 - Required, one per message

OBR - Required, may be multiple

TQ1 - Required for 2.5+, one per OBR

NTE - Optional, may be mulitiple per OBR

SPM - Required for 2.5+, one per OBR

SAC - Required for 2.5+, one per OBR

OBX - Required, may be multiple per OBR

NTE - Optional, may be multiple per OBX

LABORATORY RESULTS (DISCRETE)

Results for only one order (order number) may be reported per message.

- PID The Patient Identification segment will contain the Patient Identifiers.
- NK1 The Next of Kin segment will contain Next of Kin, Notify Person, and Employer types.
- PV1 The Patient Visit segment will contain the Patient Visit Information.
- PV2 The Patient Visit Additional Information segment will contain additional visit information.
- PD1 The Patient Additional Demographic segment will contain demographic information that is likely to change about the patient.
- OBR The Observation Result segment will contain the order identifier.
- TQ1 The Timing Quantity segment will contain the order priority.
- NTE Order comments can be transmitted in NTE segments immediately following the OBR segment. These relate to the entire order/specimen and are comprised of specimen comments and order queries.
- SPM The Specimen segment will contain the characteristics of the specimen.
- SAC The Container Detail segment will contain information about the specimen's container.
- OBX All individual test and component results for a given order will be transmitted in OBX segments following that order's OBR segment.
- NTE Text results and result comments will be transmitted in NTE segments following the OBX segment for an individual result.

MICROBIOLOGY RESULTS (DISCRETE)

The structure of microbiology results is much more complex than laboratory.

Only one Micro order may be reported per ORU message.

When a Micro result is reported, multiple OBR segments will be transmitted for a single order, as follows:

Each OBR segment will contain the order identifier. The first OBR segment will identify the ordered procedure (order) that results will reference. Any NTE segments following this OBR segment will contain order comments. Result comments for the procedure should be reported in OBX segments following this OBR segment. The OBR segment may be followed by any number of OBX segments which will contain text results for the resulted procedure(s), and will identify any organisms which have been isolated. Any organisms that are isolated should be assigned a numeric designation which is reported in the OBSERVATION SUB-ID field of the OBX segment. Note that OBX segments used to report isolated organisms should have CE (coded entry) in the VALUE TYPE field of the segment, as opposed to ST (string) for text results.

Subsequent OBR segments and OBX segments will be used to report any susceptibilities that have been run for the order. The OBR segment is used to identify the susceptibility procedure that was used and the organism it was run for. The Susceptibility procedure is identified in the UNIVERSAL SERVICE IDENTIFIER field. The Organism is identified in the LINKED RESULTS field, using the number set up in the OBSERVATION SUB-ID field of an OBX segment earlier in the message.

OBX segments following these OBR segments will be used to report the individual antibiotics and the susceptibilities that were recorded for the antibiotic.

MICROBIOLOGY RESULT TYPES

In each OBX segment, the type of result being reported will be indicated in the OBSERVATION IDENTIFIER field. The particular instance of this type of result will be indicated in the OBSERVATION SUB-ID field. The actual result value will be contained in the OBSERVATION RESULT field. Valid result types, with corresponding sub identifiers and results, are as follows:

OBS. ID VALUES	TYPE OF RESULT	OBS. SUB ID VALUES	OBSERVATION RESULT
CE	Organism Identification	1N	Organism Name/ Mnemonic
ST	Procedure/Susceptibility Results	1N	Results

SAMPLE MICROBIOLOGY RESULT GROUPING

The following example microbiology result shows the relative grouping of message segments and pertinent field information. For exact field layout and definitions, refer to the Record Layout and Appendix sections of this specification.

```
MSH
       Message Header
        Patient Identifier
 PID
 NK1
        Next of Kin
 PV1
        Patient Visit Information
 PV2
        Patient Visit Additional Information
        Patient Additional Demographics
 PD1
          Order Identifier (order number)
   OBR
           Order Timing Quantity
     TQ1
           Order Comment Line 1
     NTE
```

```
NTE
        Order Comment Line 2
  SPM
        Specimen characteristics
  SAC
        Container details
                             Text of Line 1
  OBX
        ST
                 Line 1
  OBX
        ST
                             Text of Line 2
                 Line 2
                 Organism 1 ECOLI
  OBX
        CE
  OBX
        CE
                 Organism 2 STREP SPECIES
       Order Identifier Susceptibility Procedure 1
OBR
                                                      ORG 1
  TQ1
         Timing Quantity
  SPM
         Specimen characteristics
  SAC
         Container details
  OBX
                 Antibiotic 1
                                    Result
  NTE
         Antibiotic Comment Line 1
         Antibiotic Comment Line 2
  NTE
  OBX
                 Antibiotic 2
                                    Result
         ST
OBR
       Order Identifier Susceptibility Procedure 1
                                                      ORG 2
  TQ1
         Timing Quantity
  SPM
         Specimen characteristics
  SAC
         Container details
  OBX
         ST
                 Antibiotic 1
                                    Result
  OBX
         ST
                 Antibiotic 2
                                    Result
```

PATHOLOGY AND BLOOD BANK RESULTS (TEXTUAL)

Pathology results will be sent in text format from the MEDITECH system using the HL7 message type ORU (Observation Result Unsolicited). Blood Bank results can be sent in discrete or textual format.

The OBR segment identifies the MEDITECH order for which results are being reported. ALL results associated with the given order must be reported with OBX segments following the OBR segment in the single result message.

Pathology and Blood Bank result messages in text format will be formatted with these segments:

```
MSH - Required
PID - Required, one per message
NK1 - Optional, multiple per message
PV1 - Required, one per message
PV2 - Required, one per message
PD1 - Required, one per message
OBR - Required, one per message
TQ1 - Timing Quantity
SPM - Specimen characteristics
SAC - Container details
OBX - Required, may be multiple per message
```

Sample Messages

Sample Discrete Result Messages

Note $\langle \text{CR} \rangle$ is used to indicate segment termination, as segments may span multiple lines in this document.

Discrete Laboratory Result

The OBR segment identifies the order for which results are being reported. ALL results associated with the given order must be reported with OBX segments following the OBR segment in the single result message. Further, if a FILLERS ORDER # is being sent, all results associated with the FILLERS ORDER # must be contained in the HL7 message.

```
MSH|^~\&|LAB|SITE|||200612051358||ORU^R01|7453.1|D|2.4<CR>
PID|1|^^AB|MG00001234^^^MR^999-99-9999^^^^SS^232^^^PI
||LastName^FirstName^Middle^^^||19340711|F||||||||MT0001234/10|
PV1|1|0|CLRH 3F LAB^^|||Attending
DocId^AttendingDocLast^AttendingDocFirst^^^^||||||||REF||AHC||||||||
||||||MEDH^MediTech General Hospital||REG|||200607111417||||||<CR>
OBR|1|18562^LAB|18562^LAB|UA^URINALYSIS^L|||200612051300||||||200612051343||Or
deringDocId^OrderingDocLast^OrderingDocFirst^^^^|||0512:U00004U||
200612051358||LAB|COMP||^^^^U||<CR>
OBX|1|ST|COLUR^COLOR,URINE^L|1|YELLOW||YELLOW|||F|||200612051300|ML^MAIN LAB^L
<CR>>
OBX|2|ST|CLAUR^CLARITY,URINE^L|1|CLEAR||CLEAR/HAZY||||F|||200612051300|ML^MAIN
LAB^L<CR>
OBX|3|ST|GLUUR^GLUCOSE,URINE^L|1|NEGATIVE|mmol/L|NEGATIVE||||F|||200612051300|M
L^MAIN LAB^L<CR>
OBX|4|ST|BILUR^BILIRUBIN,URINE^L|1|NEGATIVE||NEGATIVE||||F|||200612051300|ML^MA
IN LAB^L<CR>
OBX|5|ST|KETUR^KETONES,URINE^L|1|NEGATIVE|mmol/L|NEGATIVE||||F|||200612051300|M
L^MAIN LAB^L<CR>
OBX|6|ST|SGUR^SPECIFIC GRAVITY,URINE^L|1|>=1.030|||||F|||200612051300|ML^MAIN
LAB^L<CR>
OBX|7|ST|BLDUR^BLOOD,URINE^L|1|NEGATIVE||NEGATIVE||||F|||200612051300|ML^MAIN
LAB^L<CR>
OBX|8|NM|PHUR^PH,URINE^L|1|5.5||5.0 - 7.5||||F|||200612051300|ML^MAIN LAB^L<CR>
OBX|9|ST|PROUR^PROTEIN,URINE^L|1|NEGATIVE|g/L|NEG/TRACE||||F|||200612051300|ML^
MAIN LAB^L<CR>
OBX|10|NM|UROUR^UROBILINOGEN,URINE^L|1|3.2|umo1/L|<18||||F|||200612051300|ML^MA
IN LAB^L<CR>
OBX|11|ST|NITUR^NITRITE,URINE^L|1|NEGATIVE||NEGATIVE|||F|||200612051300|ML^MAI
N LAB^L<CR>
OBX|12|ST|LEUR^LEUKOCYTES,URINE^L|1|NEGATIVE||NEGATIVE|||F|||200612051300|ML^M
AIN LAB^L<CR>
```

Discrete Microbiology Result

In the example below, a CUSPU^CULTURE/GRAM, SPUTUM procedure composed of a gram stain and a culture, has been ordered. In the first OBR record, the CUSPU^CULTURE/GRAM, SPUTUM is identified as the ordered procedure. In the OBX segments that follow it, the results for the Gram Stain and the Culture are reported. In OBX segment 4 (as indicated by the segment counter in OBX Field 2) an organism (Escherichia Coli) is identified and linked with the number 2.1 for identification purposes. This ID is not strictly part of the result - it is used later in the message to identify which organism the susceptibilities are for.

In the second OBR segment, the susceptibility procedure (ZLGN05^VITEK) is identified, and associated with the organism ESCHERICHIA COLI (organism #2.1). Following this OBR segment are OBX segments with antibiotics and associated

```
MSH|^&|MIC|LMHA|||200612201433||ORU^R01|10722.1|D|2.4<CR>
PID|1|563750014^^^AB|MG00001234^^^^MR^999-99-9999^^^^SS^232^^^^PI
||LastName^FirstName^^^||19520505|M|||23 Street Address
^^MEDICINE HAT^AB^T1A 4N2||(999)999-9999||||MT0001234/10|1234567890<CR>
PV1|1|0|LABORATORY^^|||AttendingDocId
^AttendingDocLast^AttendingDocFirst^G.^^^||||||||REF||AHC||||||
|||||||||LMHA^Medicine Hat Regional Hospital||REG|||200611090956||||||<CR>
OBR|1|43646^MIC|43646^MIC|CUSPU^CULTURE/GRAM,SPUTUM^L|||200612201330|||||||2006
12201409|SPU^SPUTUM^L|OrderingDocId
^OrderingDocLast^OrderingDocFirst^OrderingDocMiddle
^^^|||06:M0002811R||2006122014
33 | LAB | COMP | | ^^^^R | | < CR >
NTE|1||Recent/Current Antibiotic Hx:^NO<CR>
NTE|2||Pertinent Clinical Info?^None provided<CR>
OBX|1|ST|GSSPU^GRAM STAIN,SPUTUM^L^P:GSSPU|1|GRAM SPUTUM||||||F|||200612201330|
LMH^MEDICINE HAT REGIONAL HOSP LAB^L<CR>
OBX|2|ST|GSSPU^GRAM STAIN,SPUTUM^L^R:2 NB|1|Few Gram negative bacilli|||||F|||
200612201330 LMH^MEDICINE HAT REGIONAL HOSP LAB^L<CR>
OBX|3|ST|GSSPU^GRAM STAIN,SPUTUM^L^R:3 PC|1|Moderate Gram positive cocci||||||F
|||200612201330|LMH^MEDICINE HAT REGIONAL HOSP LAB^L<CR>
OBX|4|CE|CSPUW^CULTURE,SPUTUM^L^O:ESCCOL|2.1|ESCCOL^ESCHERICHIA COLI||||||F|||2
00612201330 LMH^MEDICINE HAT REGIONAL HOSP LAB^L<CR>
OBX|5|ST|CSPUW^CULTURE,SPUTUM^L^P:AMT|2.1|AMOUNT OF GROWTH|||||F|||20061220133
0|LMH^MEDICINE HAT REGIONAL HOSP LAB^L<CR>
OBX|6|ST|CSPUW^CULTURE,SPUTUM^L^R:M|2.1|Moderate growth|||||F|||200612201330|L
MH^MEDICINE HAT REGIONAL HOSP LAB^L<CR>
OBR|2||43646^MIC|ZLGN05^VITEK - GN05^L|||200612201330||||||200612201409|SPU^SP
UTUM^L | OrderingDocId
^OrderingDocLast^OrderingDocFirst
^OrderingDocMiddle^^^|||06:M0002811R||200612201433||LAB|COMP|CS
PUW^2.1 | ^^^^R | 43646 MIC < CR >
NTE|1||Organism fulfills criteria of an Antibiotic Resistant<CR>
NTE | 2 | | Organism (ARO). < CR>
OBX|1|ST|AM^AMPICILLIN^L|||||S|||F|||200612201432|LMH^MEDICINE HAT REGIONAL HOS
P LAB^L<CR>
OBX|2|ST|TIC^TICARCILLIN^L||||R|||F|||200612201432|LMH^MEDICINE HAT REGIONAL H
OSP LAB^L<CR>
OBX|3|ST|AMXCA^AMOXICILLIN-CLAVULANATE^L||||S|||F|||200612201432|LMH^MEDICINE
HAT REGIONAL HOSP LAB^L<CR>
OBX|4|ST|TICCA^TICARCILLIN-CLAVULANATE^L||||S|||F|||200612201432|LMH^MEDICINE
HAT REGIONAL HOSP LAB^L<CR>
OBX|5|ST|CRMA^CEFUROXIME AXETIL^L|||||S|||F|||200612201432|LMH^MEDICINE HAT REG
IONAL HOSP LAB^L<CR>
OBX|6|ST|CFZ^CEFAZOLIN^L|||||S|||F|||200612201432|LMH^MEDICINE HAT REGIONAL HOS
P LAB^L<CR>
OBX|7|ST|CF^CEPHALOTHIN^L|||||R|||F|||200612201432|LMH^MEDICINE HAT REGIONAL HO
SP LAB^L<CR>
OBX|8|ST|CRM^CEFUROXIME SODIUM (PARENTERAL)^L||||R|||F|||200612201432|LMH^MEDI
CINE HAT REGIONAL HOSP LAB^L<CR>
OBX|9|ST|CAZ^CEFTAZIDIME^L||||R|||F|||200612201432|LMH^MEDICINE HAT REGIONAL H
OSP LAB^L<CR>
OBX|10|ST|CAX^CEFTRIAXONE^L|||||S|||F|||200612201432|LMH^MEDICINE HAT REGIONAL
HOSP LAB^L<CR>
OBX|11|ST|FOX^CEFOXITIN^L|||||S|||F|||200612201432|LMH^MEDICINE HAT REGIONAL HO
SP LAB^L<CR>
OBX|12|ST|GM^GENTAMICIN^L|||||S|||F|||200612201432|LMH^MEDICINE HAT REGIONAL HO
SP LAB^L<CR>
OBX|13|ST|TOB^TOBRAMYCIN^L|||||R|||F|||200612201432|LMH^MEDICINE HAT REGIONAL H
OSP LAB^L<CR>
OBX|14|ST|CIP^CIPROFLOXACIN^L|||||R|||F|||200612201432|LMH^MEDICINE HAT REGIONA
L HOSP LAB^L<CR>
OBX|15|ST|LEV^LEVOFLOXACIN^L||||R|||F|||200612201432|LMH^MEDICINE HAT REGIONAL
HOSP LAB^L<CR>
```

```
OBX|16|ST|NOR^NORFLOXACIN^L||||R|||F|||200612201432|LMH^MEDICINE HAT REGIONAL HOSP LAB^L<CR>
OBX|17|ST|TMPSXT^TRIMETHOPRIM SULFAMETHOXAZOLE^L||||S|||F|||200612201432|LMH^MEDICINE HAT REGIONAL HOSP LAB^L<CR>
OBX|18|ST|FD^NITROFURANTOIN^L||||S|||F|||200612201432|LMH^MEDICINE HAT REGIONAL HOSP LAB^L<CR>
OBX|19|ST|TET^TETRACYCLINE^L||||S|||F|||200612201432|LMH^MEDICINE HAT REGIONAL HOSP LAB^L<CR>
```

Sample Text Result Messages

Laboratory, microbiology, blood bank and pathology results can also be transmitted to the other vendor in text format HL7 messages. The OBR segment identifies the MEDITECH order for which results are being reported. ALL results associated with the given order must be reported with OBX segments following the OBR segment in the single result message. Further, if a FILLERS ORDER # is being sent, all results associated with the FILLERS ORDER # must be contained in the HL7 message.

Laboratory Text Result

```
MSH|^~\&|LAB||||199703101650||ORU^R01|5002|P|2.4<CR>
PID|1||MG00001234^^^MR^999-99-9999^^^^SS^232^^^^PI|
|LastName^FirstName||19600903|M|||||||MT00001234|<CR>
PV1|1||3 West||||AttendingDocId
^AttendingDocLast^AttendingDocFirst^AttendingDocMiddle
^Dr.^SR^MD|ReferringDocId^ReferringDocLast^ReferringDocFirst^ReferringDocMiddle
^SR^DR^MD
||MED|||||AdmittingDocId^AdmittingDocLast
^AdmittingDocFirst^AdmittingDocMiddle^SR^DR^MD|IN||U||||||||||||||
Item#00169||AC|||199701130945<CR>
OBR|1|123.001|444|NA^SODIUM^L||19970310|199703101449|||||19970310||ORD.DR<CR>
                       132 mg/dl 120-140 14:49|||||F|<CR>
OBX 1 TX NA^SODIUM^L |
OBR|1|123.002|444|K^POTASSIUM ^L|||199703101449|||||19970310||ORD.DR<CR>
OBX|1|TX|K^POTASSIUM^L|| 7.4 mg/dl 4.2-5.5
                                               14:49|||||F|<CR>
```

Microbiology Text Result

```
MSH|^&|LAB|001|MSX|001|200206070740||ORU^R01|3035555|P|2.4<CR>
PID|||MG00001234^^^MR^999-99-9999^^^^SS^232^^^^PI
||LastName^FirstName||19700326|M|||||||MT000001234<CR>
PV1|1||3 West||||AttendingDocId
^AttendingDocLast^AttendingDocFirst^AttendingDocMiddle
^DR^SR^MD|ReferringDocId^ReferringDocLast^ReferringDocFirst^ReferringDocMiddle
^SR^DR^MD
||MED|||||AdmittingDocId^AdmittingDocLast
^AdmittingDocFirst^AdmittingDocMiddle^SR^DR^MD|IN||U||||||||||||||||||
Item#00169||AC|||199701130945<CR>
OBR||50|2002:M000099U|CSBLD^CULTURE, BLOOD^L||200206050024|200206050608|||||||2
00206050608|BLD|CAED^CAE^DAN^G|||||200206050024|200206070739||BACT|RES<CR>
OBX||TX|CSBLD^CULTURE, BLOOD^L|| |||||F<CR>
OBX||TX|CSBLD^CULTURE, BLOOD^L||LastName
,FirstName
                                      Locatio
                           01 ||||||F<CR>
n: ICU
                1001
OBX||TX|CSBLD^CULTURE, BLOOD^L||
                                                                           DOB:
03/26/70 Age: 32 Sex: M||||||F<CR>
OBX||TX|CSBLD^CULTURE, BLOOD^L||
                                                                           171447
    ACCT#: 01641500
                     ||||||F<CR>
OBX||TX|CSBLD^CULTURE, BLOOD^L|| |||||F<CR>
OBX||TX|CSBLD^CULTURE, BLOOD^L|| |||||F<CR>
OBX||TX|CSBLD^CULTURE, BLOOD^L||Spec #: 02:M000099U
                                                         Coll: 06/05/02-0608 St
atus: RES |||||F<CR>
```

```
OBX||TX|CSBLD^CULTURE, BLOOD^L||
                                                  Recd: 06/05/02-0608 S
                |||||F<CR>
ub Dr: CAE, DAN G
OBX||TX|CSBLD^CULTURE, BLOOD^L||Source: BLOOD
                                             |||||F<CR>
OBX||TX|CSBLD^CULTURE, BLOOD^L|| |||||F<CR>
OBX||TX|CSBLD^CULTURE, BLOOD^L||Ordered: CSBLD
                           |||||F<CR>
OBX||TX|CSBLD^CULTURE, BLOOD^L||Comments: TEMP 100.8
|||||F<CR>
OBX||TX|CSBLD^CULTURE, BLOOD^L||------
-----||||||F<CR>
OBX||TX|CSBLD^CULTURE, BLOOD^L|| Procedure
                 ||||||F<CR>
OBX||TX|CSBLD^CULTURE, BLOOD^L||-----
-----||||||F<CR>
OBX||TX|CSBLD^CULTURE, BLOOD^L||> CULTURE, BLOOD Preliminary ||||||F<CR>
OBX||TX|CSBLD^CULTURE, BLOOD^L||
                                  AEROBIC BOTTLE: GRAM POS COCCI CLUSTERS
|||||F<CR>
OBX||TX|CSBLD^CULTURE, BLOOD^L|| ANAEROBIC BOTTLE ALSO POSITIVE.||||||F<
CR>
                             ||||||F<CR>
STAPH AUREUS|||||F<CR>
||||||F<CR>
SEE PREVIOUS REPORT.||||F<CR>
OBX||TX|CSBLD^CULTURE, BLOOD^L||
OBX||TX|CSBLD^CULTURE, BLOOD^L||
OBX||TX|CSBLD^CULTURE, BLOOD^L||
OBX||TX|CSBLD^CULTURE, BLOOD^L||
OBX||TX|CSBLD^CULTURE, BLOOD^L|| |||||F<CR>
OBX||TX|CSBLD^CULTURE, BLOOD^L||------
-----||||||F<CR>
OBX||TX|CSBLD^CULTURE, BLOOD^L|| | | | | | | | F<CR>
Pathology Text Result
MSH|^&|PTH|FAC|||200209260611||ORU^R01||P|2.4|
PID|||MG00001234^^^MR^999-99-9999^^^^SS^232^^^^PI
||LastName^FirstName||19700326|M|||||||MT000001234<CR>
PV1|1||3 West||||AttendingDocId
^AttendingDocLast^AttendingDocFirst^AttendingDocMiddle
^DR^SR^MD|ReferringDocId^ReferringDocLast^ReferringDocFirst^ReferringDocMiddle
^SR^DR^MD
||MED|||||AdmittingDocId^AdmittingDocLast
^AdmittingDocFirst^AdmittingDocMiddle^SR^DR^MD|IN||U|||||||||||||||||||
Item#00169||AC|||199701130945<CR>
OBR|1|P80977|P80977|^^L|||20020918||||||SOMEITIS|200209181122|||00234|||ST-100-
02||200209260611|||SOUT|||||||||
OBX|1|TX|Run: 12/26/08 0611
                                           Pathology Report
OBX | 2 | TX | -----
OBX|3|TX|Name: Last,First Age/Sex: 9/M Location: Loc
OBX 4 TX Acct#: V01020 Unit#: MT0000001 Status: ADM IN Room/Bed: 422-4
OBX 5 TX Reg: 09/26/02 Disch: Att Dr: Doctor, Doctor
OBX | 6 | TX | -----
OBX|7|TX|Spec #: ST-100-02 Recd: 09/18/02-1122 Status: SOUT Req #:
00050000
OBX|8|TX|SpType: SURGICAL Sub Dr: Submitting, Doctor
OBX | 9 | TX |
OBX | 10 | TX | CODES: T-C000 - Tissue
OBX | 11 | TX |
OBX | 12 | TX | COPIES TO:
OBX | 13 | TX | Copy, Doctor
OBX | 14 | TX | Doctors Office
OBX|15|TX|Canton, MA 02123
OBX | 16 | TX | (781) 774-4354
OBX | 17 | TX |
OBX | 18 | TX | Submitting, Doctor
```

OBX|19|TX|Hospital

```
OBX|20|TX|Westwood, MA 02090
OBX | 21 | TX | (781) 821 - 3000
OBX | 22 | TX |
OBX 23 TX HISTOLOGY:
OBX | 24 | TX |
OBX|25|TX|POST-OPERATIVE DIAGNOSIS
OBX | 26 | TX |
OBX|27|TX|Sick
OBX | 28 | TX | -----
OBX | 29 | TX |
OBX|30|TX|Signed _____(signature on file)_____ Person 09/26/02
OBX | 31 | TX |
OBX | 32 | TX | -
        -----
OBX 33 TX
OBX 34 TX ** END OF REPORT **
Blood Bank Text Result
MSH|^&|BBK||||200901091112||ORU^R01|182652.1|D|2.4|
PID|1|S00007693|MG00001234^^MR^A0-20081202105755^^PI^A00004321^^HUB^A||Last
Name ^FirstName||19100505|F|||Main St^^Boston^MA^11111|||||S||MT000001234|
PV1 1 0
PV2||SP^Semi-Private Accom^Semi-Private Accom|
PD1 | 1 | CO |
OBR | 1 | | ABS1^ABS1^B^ABS1^T | R | 200901091111 | 200901091111 | ML^MAIN
LAB | | | | 200901091111 | OrderingDocId
^OrderingDocLast^OrderingDocFirst^^^MD||00010842|||200901091112|
XOV|1|RES|567.20|N|||||||||||||1+|01||||||TNP|Test
not performed|QNS|Insufficient quant.|
OBX|1|TX|||||||||01/09/09-1112|ML|
OBX|2|TX|||-----
-----
OBX|3|TX|||RUN DATE: 01/09/09
                                        Laboratory NPR
         PAGE 1
OBX|4|TX|||RUN TIME: 1113
                                        Specimen Inquiry|
OBX | 5 | TX | | | ------
OBX|6|TX|||PATIENT: LAST,FIRST
                                      ACCT: MT000001234 LOC:
    U: MG00001234
OBX|7|TX|||AGE/SX: 98/F ROOM: 529 REG: 12/02/08|
OBX|8|TX|||REG DR: LAST,FIRST , MD DOB: 05/05/1910 BED: 10
     DIS:
OBX|9|TX|||STATUS: ADM IN TLOC:|
OBX | 10 | TX | | | ------
OBX|11|TX||| |
REQ #: 00010842
OBX|13|TX|||RECD: 01/09/09-1111 SUBM DR: LAST,FIRST , MD|
OBX | 14 | TX | | | |
OBX|15|TX|||ENTERED: 01/09/09-1112
                                                  OTHR DR:
OBX|16|TX|||ORD PRODS: (NO ORDERED PRODUCTS)|
OBX 17 TX | | ORD TESTS: AB ID, ABS1 |
OBX|18|TX|||------
OBX|19|TX|||Test
OBX | 20 | TX | | | ------|
OBX|21|TX|||ANTIBODY ID PENDING
OBX|22|TX|||> ABS1 1+
```

```
OBX | 24 | TX | | | |
OBX | 25 | TX | | | |
OBX | 26 | TX | | |
OBX 27 TX | | |
OBX | 28 | TX | | |
OBX | 29 | TX | | | |
OBX | 30 | TX | | | |
OBX 31 | TX | | | |
OBX | 32 | TX | | |
OBX | 33 | TX | | |
OBX 34 TX | | |
OBX 35 TX | | |
OBX | 36 | TX | | |
OBX 37 TX | | |
OBX | 38 | TX | | |
OBX 39 TX | | |
OBX 40 TX | | |
OBX 41 TX | |
OBX 42 TX | |
OBX 43 TX | | |
OBX 44 TX | | |
OBX 45 TX | | |
OBX | 46 | TX | | |
OBX | 47 | TX | | |
OBX | 48 | TX | | |
OBX 49 TX | |
OBX | 50 | TX | | |
OBX | 51 | TX | | |
OBX | 52 | TX | | |
OBX | 53 | TX | | |
OBX | 54 | TX | | | |
OBX | 55 | TX | | |
OBX | 56 | TX | | |
OBX | 57 | TX | | |
OBX | 58 | TX | | |
OBX | 59 | TX | | | |
OBX | 60 | TX | | | |
OBX 61 TX | | |
OBX | 62 | TX | | | |
OBX 63 TX | | | ** END OF REPORT ** |
```

Network Communications Protocol and Data Framing

For network transfer of messages, MEDITECH supports TCP/IP socket connections over an Ethernet backbone.

MEDITECH supports the HL7 Minimal Lower Layer Protocol for framing HL7 messages.

NETWORK REQUIREMENTS

- 1. The non-MEDITECH network on which the OTHER VENDOR system resides must appear to MEDITECH as a physical node on the Ethernet. Logical incorporation of TCP/IP nodes into MEDITECH networks is accomplished according to guidelines set forth in MAGIC Operating System Utilites manuals, version 5.2 and later.
- 2. At the time communications transmissions reach the MAGIC Ethernet environment, they must be contained in packets conforming to the IEEE 802.3 Ethernet standard.

ESTABLISHING NETWORK CONNECTIONS

Whether receiving messages or sending messages, MEDITECH can act as either client or server to the other vendor platform server. If MEDITECH is to act as client, the IP address of the remote system and a Well Known Port number on the remote system to which the MEDITECH system can open a TCP/IP connection must be supplied.

Once a connection is opened it will remain open until the interface is turned off on the MEDITECH system, a close is initiated by the remote system, or MEDITECH is acting as the receiver of information and the socket goes inactive for a predefined amount of time passes (e.g., 5 minutes). If a socket is closed, MEDITECH will attempt to reconnect if acting a client, and will enter into a listening mode if acting a server.

Message transfer will be assumed to be initiated by the sender of messages, which will send an HL7 message and await to receive an HL7 Acknowledgement message.

HL7 MINIMAL PROTOCOL

The Minimal Lower Layer Protocol is described in section B.4 MINIMAL LOWER LAYER PROTOCOL of the Health Level Seven Version 2.1 specification.

With this protocol, an HL7 data message is framed with a single character to start the data message and two characters to terminate the message. No other characters are added to the HL7 message.

The format of the transmission block is this:

<SB>ddddd<EB><CR>

Where:

<SB> is the Start Block character, ASCII <VT>, decimal <11>, hex <0B>.

ddd is the variable number of bytes representing the HL7 data message.

<EB> is the End Block character, ASCII <FS>, decimal <28>, hex <1C>.

<CR> is a Carriage Return Character, ASCII <CR>, decimal <13>, hex <0D>.

ACKNOWLEDGEMENT MESSAGES FOR NETWORK COMMUNICATIONS

With the HL7 Minimal Protocol, the sender of an HL7 message (such as an ADT, ORM, or ORU message) will send a message and expect to receive an acknowledgement message before sending another message. If an acknowledgement message is not receive within a predetermined period of time, the sender will attempt to send the same message again.

If MEDITECH is the sender of messages, MEDITECH will expect an acknowledgement message that contains the MESSAGE CONTROL ID of the message originally sent by MEDITECH. MEDITECH will not process any application level error messages, nor will it process any delayed acknowledgement messages.

If MEDITECH is the receiver of messages, MEDITECH will send an ACK General Acknowledgement message which contains the MESSAGE CONTROL ID of the message received by MEDITECH. MEDITECH will not send any application level error messages or any delayed acknowledgement messages.

Record Layouts Other Vendor to MEDITECH Laboratory System

Message ACK Segment MSH GENERAL ACKNOWLEDGEMENT MESSAGE HEADER
Message ACK Segment MSA MESSAGE ACKNOWLEDGEMENT

Message ACK Segment MSH GENERAL ACKNOWLEDGEMENT MESSAGE HEADER

Seq	Item	HL7 Description	Req	Туре	Len	MEDITECH Description	Req	Туре	Len
1	00005	FIELD SEPARATOR	R	ST	1	FIELD SEPARATOR	R	AN	1
2	00509	ENCODING CHARACTERS	R	ST	4	ENCODING CHARACTERS	R	AN	4
3	00006	SENDING APPLICATION	R	ST	180	SENDING APPLICATION	R	AN	180
4	00512	SENDING FACILITY	0	ST	180	SENDING FACILITY	0	AN	180
5	00009	RECEIVING APPLICATION	0	ST	180	RECEIVING APPLICATION	0	AN	180
6	00513	RECEIVING FACILITY	0	ST	180	RECEIVING FACILITY	О	AN	180
7	00010	DATE/TIME OF MESSAGE	О	TS	26	DATE/TIME OF MESSAGE	О	AN	26
9	00012	MESSAGE TYPE	R	ID	7	MESSAGE TYPE	R	AN	7
10	MSH.10	MESSAGE CONTROL ID	R	ST	20	MESSAGE CONTROL ID	R	AN	20
11	00014	PROCESSING ID	R	ID	3	PROCESSING ID	R	AN	3
12	00015	VERSION ID	R	NM	8	VERSION ID	R	N	8

Req - R = Required, C = Conditionally Required, O = Optional, NU = Not Supported

ACK Segment MSH will be formatted as follows:

MSH|Item#00005^~\&|LAB|MEDITECH|Item#00009|Item#00513|199212311049||ORU^R01| 123456789|P|2.3

This will be a General Acknowledgement (or ACK) message type, which will be sent by the receiving system after receipt of a message. The sending system will wait for receipt of the acknowledgement message before attempting to send another message. If no Acknowledgement Message has been received within a specified period of time, the sending system may attempt to re-send the message.

The MSA segment will contain the MESSAGE CONTROL ID of the message that is being acknowledged.

Upon receipt of an Acknowledgement Message, the sender will assume that the indicated message had been successfully transmitted. MEDITECH will not send or process any Application Error text messages.

Message ACK Segment MSA MESSAGE ACKNOWLEDGEMENT

Seq	Item	HL7 Description	Req	Туре	Len	MEDITECH Description	Req	Туре	Len
1	00002	ACKNOWLEDGEMENT CODE	R	ID	1 <i>7</i> 1	ACKNOWLEDGEMENT CODE	R	AN	2
		MESSAGE CONTROL ID	R	ST	20	MESSAGE CONTROL ID	R	AN	20

Req - R = Required, C = Conditionally Required, O = Optional, NU = Not Supported

ACK Segment MSA will be formatted as follows:

MSA | AA | 123456789

The MSA segment will contain the MESSAGE CONTROL ID of the message that is being acknowledged.

ACK Acknowledgement
MSH Message Header

MSA Message Acknowledgement

Record Layouts MEDITECH Laboratory System to Other Vendor

Message ORU	Segment MSH	RESULT MESSAGE HEADER
Message ORU	Segment PID	RESULT PATIENT IDENTIFICATION
Message ORU	Segment NK1	NEXT OF KIN
Message ORU	Segment PV1	PATIENT VISIT
Message ORU	Segment PV2	PATIENT VISIT ADDITIONAL INFORMATION
Message ORU	Segment PD1	PATIENT ADDITIONAL DEMOGRAPHICS
Message ORU	Segment OBR	RESULT OBSERVATION REQUEST
Message ORU	Segment TQ1	Quantity Timing
Message ORU	Segment NTE	RESULT NOTES AND COMMENTS
Message ORU	Segment SPM	<u>Specimen</u>
Message ORU	Segment SAC	Container Detail
Message ORU	Segment OBX	RESULT
Message ORU	Segment NTE	RESULT NOTES AND COMMENTS

Message ORU Segment MSH RESULT MESSAGE HEADER

Seq	Item	HL7 Description	Req	Туре	Len	MEDITECH Description	Req	Туре	Len
1	00005	FIELD SEPARATOR	R	ST	1	FIELD SEPARATOR	R	AN	1
2	00509	ENCODING CHARACTERS	R	ST	4	ENCODING CHARACTERS	R	AN	4
3	00006	SENDING APPLICATION	R	ST	180	SENDING APPLICATION	R	AN	180
4	00512	SENDING FACILITY	0	ST	180	SENDING FACILITY	0	AN	180
5	00009	RECEIVING APPLICATION	0	ST	180	RECEIVING APPLICATION	0	AN	180
6	00513	RECEIVING FACILITY	О	ST	180	RECEIVING FACILITY	О	AN	180
7	00010	DATE/TIME OF MESSAGE	0	TS	26	DATE/TIME OF MESSAGE	R	AN	26
9	00012	MESSAGE TYPE	R	ID	7	MESSAGE TYPE	R	AN	7
10	MSH.10	MESSAGE CONTROL ID	R	ST	20	MESSAGE CONTROL ID	R	AN	20
11	00014	PROCESSING ID	R	ID	3	PROCESSING ID	R	AN	3
12	00015	VERSION ID	R	NM	8	VERSION ID	R	N	8

Req - R = Required, C = Conditionally Required, O = Optional, NU = Not Supported

ORU Segment MSH will be formatted as follows:

MSH|Item#00005^~\&|LAB|MEDITECH|Item#00009|Item#00513|199212311049||ORU^R01| 123456789|P|2.3

This segment defines the intent, source, destination, and some specifics of the syntax of the ORU - Unsolicited Transmission of an Observation message.

Message ORU Segment PID RESULT PATIENT IDENTIFICATION

Seq	Item	HL7 Description	Req	Туре	Len	MEDITECH Description	Req	Туре	Len
1	00572	SET ID - PATIENT ID	О	SI	4	SET ID - PATIENT ID	0	AN	4
2	00581	PATIENT ID (EXTERNAL ID)	R	СК	20	MRI HUB ID	0	AN	20
3	00034	PATIENT ID (INTERNAL ID)	R	СК	20	PATIENT MEDICAL RECORD NUMBER	R	AN	20
5	00041	PATIENT NAME	R	PN	48	PATIENT NAME	R	AN	48
7	00043	DATE OF BIRTH	0	DT	26	DATE OF BIRTH	R	N	26
8	PID.8	SEX	0	ID	1	SEX	R	AN	1
11	00114	PATIENT ADDRESS	0	AD	106	PATIENT ADDRESS	0	AN	106
13	00049	PHONE NUMBER - HOME	0	TN	40	PHONE NUMBER - HOME	О	N	40
18	00035	PATIENT ACCOUNT NUMBER	0	СК	20	PATIENT ACCOUNT NUMBER	R	AN	20
19	00457	SSN NUMBER - PATIENT	О	ST	16	SSN NUMBER - PATIENT	0	AN	15

 $\mbox{Req - R = Required, C = Conditionally Required, O = Optional, NU = Not Supported } \\$

ORU Segment PID will be formatted as follows:

PID|1|12345678910^^^AB|M5438999||LastName^FirstName||19840831|M||| 5 STREET ADDR.^APT 1^DUDLEY^MA^01570||999-999-9999||||MT00001234|999999999

This segment will be the primary means of communicating patient identification information in the ORU Unsolicited Observation Result Message.

Message ORU Segment NK1 NEXT OF KIN

II - I	Item	HL7 Description	Req	Туре	Len	MEDITECH Description	Req	Туре	Len
1	00190	SET ID - NEXT OF KIN	R	SI	4	SET ID - NEXT OF KIN	R	N	4
2	NK1.2	Name	0	XPN	250	Name	R	XPN	250
3	NK1.3	Relationship	0	CE	250	Relationship	0	CE	10
4	NK1.4	Address	0	XAD	250	Address	0	XAD	250
5	NK1.5	Phone Number	0	XTN	250	Home Phone Number	0	XTN	20
6	NK1.6	Business Phone Number	0	XTN	250	Business Phone Number	О	XTN	20
7	NK1.7	Contact Role	0	CE	250	Contact Role	0	CE	3

 $\mbox{Req - R = Required, C = Conditionally Required, O = Optional, NU = Not Supported } \\$

ORU Segment NK1 will be formatted as follows:

NK1|1|Item#NK1.2|Item#NK1.3|Item#NK1.4|Item#NK1.5|Item#NK1.6|NOK

The NK1 segment contains information about the patient's other related parties. Any associated parties may be identified. Utilizing NK1-1-set ID, multiple NK1 segments can be sent.

Message ORU Segment PV1 PATIENT VISIT

Seq	Item	HL7 Description	Req	Туре	Len	MEDITECH Description	Req	Туре	Len
1	PV1.1	SET ID - PV1	0	SI	4	SET ID - PV1	R	ST	4
2	00052	PATIENT CLASS	R	ID	1	PATIENT STATUS	R	AN	1
3	PV1.3	ASSIGNED PATIENT LOCATION	0	PL	80	ASSIGNED PATIENT LOCATION	0	ST	80
4	PV1.4	Admission Type	0	IS	2	Admission Priority	0	IS	2
7	PV1.7	ATTENDING DOCTOR	О	XCN	250	ATTENDING DOCTOR	0	СМ	250
8	PV1.8	REFERRING DOCTOR	О	XCN	250	REFERRING DOCTOR	О	СМ	250
9	PV1.9	CONSULTING DOCTOR	В	XCN	250	CONSULTING DOCTOR	0	XCN	250
10	PV1.10	HOSPITAL SERVICE	0	IS	3	HOSPITAL SERVICE	0	ST	3
14	PV1.14	Admit Source	0	IS	6	Admit Source	0	IS	6
16	PV1.16	VIP Indicator	0	IS	2	VIP Indicator	0	IS	2
17	PV117	ADMITTING DOCTOR	0	СМ	250	ADMITTING DOCTOR	0	СМ	250
18	PV118	PATIENT TYPE	0	ST	2	PATIENT TYPE	R	ST	2
20	PV1.20	FINANCIAL CLASS	0	ST	50	FINANCIAL CLASS	R	ST	50
36	PV1.36	Discharge Disposition	0	IS	3	Discharge Disposition	0	IS	3
39	PV1.39	SERVICING FACILITY	О	ST	2	SERVICING FACILITY	0	ST	2
41	PV1.41	ACCOUNT STATUS	0	ST	2	ACCOUNT STATUS	R	ST	2
44	PV1.44	ADMIT DATE/TIME	0	ST	12	ADMIT DATE/TIME	R	ST	12
45	PV1.45	DISCHARGE DATE/TIME	О	TS	26	DISCHARGE DATE/TIME	0	ST	26

Req - R = Required, C = Conditionally Required, O = Optional, NU = Not Supported

ORU Segment PV1 will be formatted as follows:

PV1|1|I|3 West|EL|||AttId^AttLast^AttFir^M^DR^SR^MD|
RefId^RefLast^RefFirst^D^SR^DR^MD|Item#PV1.9|MED||||Item#PV1.1||Item#PV1.1|
AdmtId^AdmtLast^AdmtFirst^D^SR^DR^MD|IN||U|||||||||||||Item#PV1.3|||
Item#PV1.3||AC|||200401130945|Item#PV1.4

The PV1 segment is used by Registration/ADT applications to communicate information on a visit specific basis.

Message ORU Segment PV2 PATIENT VISIT ADDITIONAL INFORMATION

Seq	Item	HL7 Description	Req	Туре	Len	MEDITECH Description	Req	Туре	Len
2	PV2.2	Accomodation Code	0	CE	250	Accomodation Code	CR	CE	10
3	PV2.3	Admit Reason	0	CE	250	Admit Reason	CR	CE	50
8	PV2.8	Expected Admit Date/Time	О	TS	26	Decision to Admit Date/Time	О	TS	26
10	PV2.10	Estimated Length of Inpatient	О	NM	3	Estimated Length of Inpatient	О	NM	4
12	PV2.12	Visit Description	0	ST	50	Admit Comment	0	ST	50
16	PV2.16	Purge Status Code	0	IS	1	Confidential Flag	0	IS	1
22		Visit Protection Indicator	О	ID	1	Confidential Flag	О	ID	1

Req - R = Required, C = Conditionally Required, O = Optional, NU = Not Supported
ORU Segment PV2 will be formatted as follows:

PV2||Item#PV2.2|Item#PV2.3|||||200901021453||Item#PV2.1||Item#PV2.1||||Y||||| Item#PV2.2

The PV2 segment is a continuation of visit-specific information contained on the PV1 segment.

Message ORU Segment PD1 PATIENT ADDITIONAL DEMOGRAPHICS

Seq	Item	HL7 Description	Req	Туре	Len	MEDITECH Description	Req	Туре	Len
1	PD1.1	Living Dependency	0	IS	2	Set ID	R	N	2
2	PD1.2	Living Arrangement	0	CE	10	Financial Class	0	CE	10
4		Patient Primary Care Provider	В	XCN		Patient Primary Care Provider	О	XCN	250
12	PD1.12	Protection Indicator	0	ID	1	VIP Indicator	0	ID	1

Req - R = Required, C = Conditionally Required, O = Optional, NU = Not Supported ORU Segment PD1 will be formatted as follows:

PD1|1|Item#PD1.2||Item#PD1.4||||||Y

The patient additional demographic segment contains demographic information that is likely to change about the patient.

The PD1 segment will only generate for HL7 versions 2.4 or less.

Message ORU Segment OBR RESULT OBSERVATION REQUEST

Seq	Item	HL7 Description	Req	Туре	Len	MEDITECH Description	Req	Туре	Len
1	00520	SET ID - OBSERVATION REQUEST	О	SI	4	SET ID - OBSERVATION REQUEST	О	AN	4
2	00732	PLACERS ORDER #	0	СМ	75	PLACERS ORDER #	0	AN	75
3	00733	FILLERS ORDER #	0	СМ	75	FILLERS ORDER #	0	AN	75
4	00523	UNIVERSAL SERVICE IDENTIFIER	R	CE	200	ORDERED TEST/PROCEDURE CODE	R	AN	200
5	00524	PRIORITY	0	ST	2	PRIORITY	0	AN	1
7	00529	REQUESTED DATE- TIME	О	TS	26	COLLECTION DATE/TIME	0	AN	26
8	00529	REQUESTED DATE- TIME	0	TS	19	COLLECTION DATE/TIME	0	AN	26
9	XX.SITE	Collection Volume	0	CE	20	Ordering Site	0	CE	10
10	00533	COLLECTOR IDENTIFIER	О	CN	60	COLLECTED BY USER	0	AN	15
14	00537	SPECIMEN RECEIVED DATE/TIME	R	TS	26	SPECIMEN RECEIVED DATE/TIME	R	AN	26
15	00538	SPECIMEN SOURCE	0	СМ	300	SPECIMEN SOURCE	0	AN	50
16	00539	ORDERING PROVIDER	О	CN	120	ORDERING DOCTOR	0	AN	120
24	00257	DIAGNOSTIC SERV SECT ID	О	ID	10	DIAGNOSTIC SERV SECT ID	0	AN	10
25	00734	RESULT STATUS	0	ID	1	SPECIMEN STATUS	0	AN	4
26	00550	LINKED RESULTS	0	CE		LINKED RESULTS	0	AN	400
27	OM4.6	Specimen	0	CE	250	MIC Specimen Description	CR	CE	250
28	00057	OTHER DOCTOR(S)	0	CN	250	OTHER DOCTOR(S)	0	AN	250
29	00737	PARENT ACCESSION #	0	AN	200	PARENT ACCESSION #	CR	AN	200
32	00264	PRINCIPAL RESULT INTERPRETER	О	AN	10	VERIFY USER	0	AN	10
39	01030	COLLECTOR'S COMMENT	О	AN	200	CANCEL COMMENTS	0	AN	200

Req - R = Required, C = Conditionally Required, O = Optional, NU = Not Supported ORU Segment OBR will be formatted as follows:

OBR|1|45643Z^625540^LAB|1229.001^1234^LAB^12292008.001|GLU^^L|R||19970309|
199703091405|ML^MAIN LAB|USER.CODE.COLCT|||199212311430|BLD^BLOOD^L|
DR.CODE.ORD||||||LAB|RES|ANAR CULT^2|Item#OM4.6|
OthId^OthLast^OthFirst^JR^DR^MD|Item#00737|||VerifyUserMnemonic||||||
Item#01030

This segment will contain order specific information in an ORU Unsolicited Result Message.

One OBR segment should be sent per order (except for microbiology, see below). Individual test results should be sent with following OBX segments. Multiple OBR segments may be contained in one result. OBR segments that have the same FILLERS ORDER # in the same message will indicate a logical grouping of orders on the MEDITECH side (e.g., specimen).

For microbiology, multiple OBR segments may be sent per order. One OBR segment should be sent per isolate per microbiology procedure (order) to report susceptibility results. Individual susceptibility results for an isolated organism should be sent with following OBX segments. The organism will be identified in the LINKED RESULTS field of the OBR segment. The LINKED RESULTS field will contain the OBSERVATION ID and OBSERVATION SUB-ID of the previously transmitted organism OBX segment. This will associate a susceptibility result to its previously reported isolated organism result.

Message ORU Segment TQ1 Quantity Timing Quantity Timing segment

Seq	Item	HL7 Description	Req	Туре	Len	MEDITECH Description	Req	Туре	Len
9	01635	PRIORITY	0	AN	10	PRIORITY	0	AN	10

Req - R = Required, C = Conditionally Required, O = Optional, NU = Not Supported ORU Segment TQ1 will be formatted as follows:

TQ1R

This segment will contain order specific priority information in a ORU Result Message.

Message ORU Segment NTE RESULT NOTES AND COMMENTS

Seq	Item	HL7 Description	Req	Туре	Len	MEDITECH Description	Req	Туре	Len
1	00573	SET ID - NOTES AND COMMENTS	0	SI	124	SET ID - NOTES AND COMMENTS	О	AN	4
		COMMENT	R	TX	120	SPECIMEN/RESULT COMMENTS	R	AN	120

Req - R = Required, C = Conditionally Required, O = Optional, NU = Not Supported ORU Segment NTE will be formatted as follows:

NTE | 1 | | WHAT A SPECIMEN.

This segment will be used to communicate comments associated with orders and results. Comments associated with an order will be sent after the OBR segment. Comments associated with a result will be sent after the OBX segment.

Message ORU Segment SPM Specimen Specimen segment

Seq	Item	HL7 Description	Req	Туре	Len	MEDITECH Description	Req	Туре	Len
1	01754	Set ID	0	SI	4	Set ID	0	SI	4
2	01755	Specimen ID	0	ST	80	Specimen ID	0	ST	80
3	01756	Specimen Parent IDs	0	ST	80	Specimen Parent IDs	0	ST	80
4	01900	Specimen Type	R	AN	250	Specimen Type	CR	AN	250
7	01759	Specimen Collection Method	0	SN	250	Specimen Collection Method	О	SN	250
17	01765	Specimen Collection Date/Time	0	DT	26	Specimen Collection Date/Time	О	DT	26
18	00248	Specimen Receive Date/Time	0	DT	26	Specimen Receive Date/Time	О	DT	26
26	01772	Number of Specimen Containers	0	NM	4	Number of Specimen Containers	О	NM	4
27	01773	Container Type	0	AN	250	Container Type	0	AN	250

 $\mbox{Req - R = Required, C = Conditionally Required, O = Optional, NU = Not Supported } \\$

ORU Segment SPM will be formatted as follows:

SPM|1|00001122^1332^LAB|0413:H00002R^1332^LAB^041310:H2|
BLD^BLOOD^BLOOD^100.100^BLD|||MAN^MANUAL|||||||201004221610|201004221631|||||
|||1|LAV^LAVENDER

The intent of this segment is to describe the characteristics of a specimen.

Message ORU Segment SAC Container Detail Container Detail Segment

Sec	Item	HL7 Description	Req	Туре		Len MEDITECH Description		Туре	Len
3	01331	Container Identifier	R	EI	80	Container Identifier	R	EI	80

Req - R = Required, C = Conditionally Required, O = Optional, NU = Not Supported

ORU Segment SAC will be formatted as follows:

SAC|||0413:H00002R^1332^LAB^041310:H2

The container detail segment is the data necessary to maintain the containers that are being used throughout the Laboratory Automation System.

Message ORU Segment OBX RESULT

Seq	Item	HL7 Description	Req	Туре	Len	MEDITECH Description	Req	Туре	Len
1	00559	SET ID - OBSERVATION SIMPLE	О	SI	10	SET ID - OBSERVATION SIMPLE	О	AN	10
2		VALUE TYPE	R	ID	2	VALUE TYPE	0	AN	2
3	00560	OBSERVATION IDENTIFIER	0	CE	590	OBSERVATION IDENTIFIER	0	AN	590
4	00769	OBSERVATION SUB- ID	0	ST	20	OBSERVATION SUB- ID	0	AN	20
5	00561	OBSERVATION RESULT	О	ST	150k	OBSERVATION RESULTS	0	AN	150
6	00562	UNITS	0	ST	60	UNITS	0	AN	60
7	00563	REFERENCES RANGE	0	ST	10	REFERENCES RANGE	0	AN	10
8		ABNORMAL FLAGS	0	ST	5	ABNORMAL FLAGS	0	AN	5
II I		OBSERVATION RESULT STATUS	О	ID	1	OBSERVATION RESULT STATUS	0	AN	1
14	00529	REQUESTED DATE- TIME	О	AN	26	COLLECTION DATE/TIME	0	AN	26
15	XX583	PRODUCER'S ID	0	CE	60	PRODUCER'S ID	0	AN	60

Req - R = Required, C = Conditionally Required, O = Optional, NU = Not Supported

ORU Segment OBX will be formatted as follows:

OBX|1|ST|NA^SODIUM^L^NA^T^1110.001|Item#00769|142|cc/m1|120-140|H|||F||| 199703091405|ML^MAIN LAB^L

This segment will contain results that are associated with a single order or component of an order depending on the result format.

For microbiology, one OBX segment will contain one line of paragraph or interpretion results from a procedure, the line number in the OBSERVATION SUB-ID field, and the line of text up to 80 characters in the OBSERVATION RESULT field.

One OBX segment will be sent for each organism isolated in a culture, with the Organism Number in the OBSERVATION SUB-ID field, and the Organism Mnemonic/Name in the OBSERVATION RESULT field.

Multiple susceptibility results for a single organism will be sent as multiple OBX segments with each organism identified in the LINKED RESULTS field of the preceding OBR segment. The OBSERVATION IDENTIFIER field will contain the, Antibiotic mnemonic/name, and the susceptibility result will be in the OBSERVATION RESULT field.

Seq	Item	HL7 Description	Req	Туре	Len	MEDITECH Description	Req	Туре	Len
1	00573	SET ID - NOTES AND COMMENTS	0	SI		SET ID - NOTES AND COMMENTS	О	AN	4
		COMMENT	R	TX	120	SPECIMEN/RESULT COMMENTS	R	AN	120

Req - R = Required, C = Conditionally Required, O = Optional, NU = Not Supported
ORU Segment NTE will be formatted as follows:

NTE | 1 | | WHAT A SPECIMEN.

This segment will be used to communicate comments associated with orders and results. Comments associated with an order will be sent after the OBR segment. Comments associated with a result will be sent after the OBX segment.

Appendix

Field Definitions

NOTE	HL7/MT	DESCRIPTION	LENGTH	ТҮРЕ
00002	HL7 MT	ACKNOWLEDGEMENT CODE ACKNOWLEDGEMENT CODE	2 2	ID AN

HL7 standard description

This will always contain value AA for Application Accept as the function of this message is entirely as a communication level acknowledgement.

Used in Message Segment: ACK MSA

00005	HL7	FIELD SEPARATOR	1	ST
	MT	FIELD SEPARATOR	1	AN

HL7 standard description

The separator between the segment ID and the ENCODING CHARACTERS field. It serves as the separator and defines the character to be used as a separator for the rest of the message.

Used in Message Segments: ACK MSH, ORU MSH

00006	HL7	SENDING APPLICATION	180	ST
	MT	SENDING APPLICATION	180	AN

HL7 standard description

MEDITECH value: LAB for results from the MEDITECH Laboratory system.

MIC for results from the MEDITECH Microbiology system. BBK for results from the MEDITECH BloodBank system.

Used in Message Segments: ACK MSH, ORU MSH

00009	HL7	RECEIVING APPLICATION	180	ST
	MT	RECEIVING APPLICATION	180	AN

HL7 standard description

Available for interface with lower level protocols.

Used in Message Segments: ACK MSH, ORU MSH

00010 HL7 DATE/TIME OF MESSAGE 26 TS MT DATE/TIME OF MESSAGE 26 AN

HL7 standard description

Date/time that the sending system created the message.

MEDITECH format: Date and time will be in the form YYYYMMDDHHMM upto 12

characters.

Used in Message Segments: ACK MSH, ORU MSH

 00012
 HL7
 MESSAGE TYPE
 7
 ID

 MT
 MESSAGE TYPE
 7
 AN

HL7 standard description

An Unsolicited Result message will have message type ORU^R01.

Used in Message Segments: ACK MSH, ORU MSH

00014 HL7 PROCESSING ID 3 ID

MT PROCESSING ID 3 AN

HL7 standard description

MEDITECH Value: P (Production/Live) or D (Development/Test)

Used in Message Segments: ACK MSH, ORU MSH

00015 HL7 VERSION ID 8 NM
MT VERSION ID 8 N

HL7 standard description

The default Version ID will be '2.3' and can be edited via parameter upon request.

Used in Message Segments: ACK MSH, ORU MSH

00034 HL7 PATIENT ID (INTERNAL ID) 20 CK MT PATIENT MEDICAL RECORD NUMBER 20 AN

MEDITECH description

For HL7 version 2.2 or less, this field will contain the patient's MEDICAL RECORD NUMBER.

For HL7 2.4 or higher, this field will contain a list of patient identifiers including MEDICAL RECORD NUMBER (MR), SOCIAL SECURITY NUMBER (SS), Internal URN

(PI) and and HUB ID (HUB) using repetition characters as illustrated by the following example:

M5438999^^^MR<Repetion character>282-22-2298^^^^SS<Repetition character>232^^^PI

Used in Message Segment: ORU PID

00035 HL7 PATIENT ACCOUNT NUMBER 20 CK MT PATIENT ACCOUNT NUMBER 20 AN

HL7 standard description

MEDITECH value: Patient's account number as defined in the MEDITECH

database. The account number will consist of a one or two character alpha prefix followed by a site specific number of digits. The prefix and digits will not exceed 12 characters.

MEDITECH element name: ADM.PAT.acct.number

Used in Message Segment: ORU PID

 00041
 HL7
 PATIENT NAME
 48
 PN

 MT
 PATIENT NAME
 48
 AN

HL7 standard description

MEDITECH value: Patient name as defined in the MEDITECH database. Patient

name will be in the format Lastname^Firstname^Middlename.

Used in Message Segment: ORU PID

 00043
 HL7
 DATE OF BIRTH
 26
 DT

 MT
 DATE OF BIRTH
 26
 N

HL7 standard description

Date of birth will be in the format YYYYMMDD.

MEDITECH element name: ADM.PAT.birthdate or ADM.PAT.computed.birthdate

Used in Message Segment: ORU PID

 00049
 HL7
 PHONE NUMBER - HOME
 40
 TN

 MT
 PHONE NUMBER - HOME
 40
 N

HL7 standard description

MEDITECH will accept free text up to 18 characters as a phone number.

MEDITECH element name: ADM.PAT.pat.home.phone

Used in Message Segment: ORU PID

 00052
 HL7
 PATIENT CLASS
 1
 ID

 MT
 PATIENT STATUS
 1
 AN

HL7 standard description

Generally denoted as I - 'inpatient', O - 'outpatient'; P - 'preadmit', E- 'emergency'. This is the patient status at MEDITECH Admissions system.

Used in Message Segment: ORU PV1

 00057
 HL7
 OTHER DOCTOR(S)
 250
 CN

 MT
 OTHER DOCTOR(S)
 250
 AN

HL7 standard description

Format: Mnemonic^LastName^FirstName^Middle^Suffix^Prefix^Degree

MEDITECH value: MEDITECH MIS Doctor Dictionary mnemonic. Custom to send

other providers entered in LIS requisition (Other Doctor field).

Used in Message Segment: ORU OBR

 00114
 HL7
 PATIENT ADDRESS
 106
 AD

 MT
 PATIENT ADDRESS
 106
 AN

HL7 standard description

Mailing address of the patient.

Format: Address1^Address2^City^State^Zip Or Postal

MEDITECH element name: ADM.PAT.pat.street, ADM.PAT.pat.city,

ADM.PAT.pat.state and ADM.PAT.pat.zip

Used in Message Segment: ORU PID

00190 HL7 SET ID - NEXT OF KIN 4 SI MT SET ID - NEXT OF KIN 4 N

HL7 standard description

This field is used to uniquely identify the NK1 records for the purpose of adding, changing, or deleting records.

Used in Message Segment: ORU NK1

00248 HL7 Specimen Receive Date/Time 26 TS MT Specimen Receive Date/Time 26 DT

This field contains the Specimen Receive date/time in the YYYYMMDDTTTT format.

Used in Message Segment: ORU SPM

 00257
 HL7
 DIAGNOSTIC SERV SECT ID
 10
 ID

 MT
 DIAGNOSTIC SERV SECT ID
 10
 AN

HL7 standard description

The value "LAB" is sent as the Diagnostic Service.

Used in Message Segment: ORU OBR

00264 HL7 PRINCIPAL RESULT INTERPRETER 2 ID MT VERIFY USER 10 AN

HL7 standard description

This field contains the Result Verify User Menmonic.

MEDITECH value: LAB.L.SPEC.verify.user or LAB.M.SPEC.verify.user

Used in Message Segment: ORU OBR

00457HL7SSN NUMBER - PATIENT16STMTSSN NUMBER - PATIENT15AN

HL7 standard description

The patient's social security number.

MEDITECH value: Patient social security number can be up to 15 free text

characters.

Used in Message Segment: ORU PID

00509 HL7 ENCODING CHARACTERS 4 ST MT ENCODING CHARACTERS 4 AN

HL7 standard description

Four characters that include the component separator, the repetition separator, the escape character, and the sub-component separator.

MEDITECH currently does not support the escape character. Therefore, no data fields may contain the field separator character.

The component, sub-component, and repetition separators are used as appropriate in each field. These characters may not be part of the data of any fields which may have components or sub-components, or which may repeat.

Used in Message Segments: ACK MSH, ORU MSH

00512	HL7	SENDING FACILITY	180	ST
	MT	SENDING FACILITY	180	AN

Addresses one of several occurrences of the same application within the sending system.

Used in Message Segments: ACK MSH, ORU MSH

00513 HL7 RECEIVING FACILITY 180 ST MT RECEIVING FACILITY 180 AN

HL7 standard description

Identifies the receiving facility among multiple identical instances of the application running on behalf of different organizations.

MEDITECH value: <Optional> This is a parameter which can be set up if needed. However, the data transmitted or received in this field is not needed by MEDITECH to format or file the record and is not stored in the MEDITECH system.

Used in Message Segments: ACK MSH, ORU MSH

 00520
 HL7
 SET ID - OBSERVATION REQUEST
 4
 SI

 MT
 SET ID - OBSERVATION REQUEST
 4
 AN

Used in Message Segment: ORU OBR

00523 HL7 UNIVERSAL SERVICE IDENTIFIER 200 CE
MT ORDERED TEST/PROCEDURE CODE 200 AN

HL7 standard description

Identifier code for the requested observation/battery/service.

This is a coded entry field comprised of the following components:

Component 1: test/procedure mnemonic

Component 2: test/procedure text description

Component 3: indicates the coding scheme

'L' in the third component indicates a locally defined scheme

Component 4: test/procedure abbreviation

Component 5: test/procedure type

Component 6: test/procedure Print Number

Component 7: test/procedure HUB data name

Component 8: test/procedure department

Component 9: test/procedure department name

Component 10: test/procedure department abbreviation

Component 11: test/procedure department prefix

Component 12: test/procedure HUB data name

Used in Message Segment: ORU OBR

 00524
 HL7
 PRIORITY
 2
 ST

 MT
 PRIORITY
 1
 AN

HL7 standard description

This field contains the priority.

Used in Message Segment: ORU OBR

 00529
 HL7
 REQUESTED DATE-TIME
 26
 TS

 MT
 COLLECTION DATE/TIME
 26
 AN

HL7 standard description

Date and time the sample was obtained from the patient. Format YYYYMMDDHHMM.

Used in Message Segments: ORU OBR, ORU OBX

00533 HL7 COLLECTOR IDENTIFIER 60 CN
MT COLLECTED BY USER 15 AN

HL7 standard description

Person, department, or facility that collected the specimen required for the study.

MEDITECH value:

LAB, MIC, BBK: Collected By user mnemonic.

PTH: <not used>

Used in Message Segment: ORU OBR

00537 HL7 SPECIMEN RECEIVED DATE/TIME 26 TS
MT SPECIMEN RECEIVED DATE/TIME 26 AN

HL7 standard description

Login time at the diagnostic service for observations requiring a specimen. This time will default to the same time as the collection data/time for most cases. Format YYYYMMDDHHMM.

Used in Message Segment: ORU OBR

 00538
 HL7
 SPECIMEN SOURCE
 300
 CM

 MT
 SPECIMEN SOURCE
 50
 AN

HL7 standard description

Used for microbiology only.

The first component of this CE data type element will contain a source identifier.

The Max length of the source mnemonic(first component) is 10 characters.

The second component will contain a source description. The Max length of component 2 is 21 characters

The third component of the CE field will contain L to indicate a Locally defined value.

EXAMPLE: BLD&BLOOD&L

Used in Message Segment: ORU OBR

 00539
 HL7
 ORDERING PROVIDER
 120
 CN

 MT
 ORDERING DOCTOR
 120
 AN

HL7 standard description

ORDERING DOCTOR.

Used in Message Segment: ORU OBR

 00550
 HL7
 LINKED RESULTS
 400
 CE

 MT
 LINKED RESULTS
 400
 AN

HL7 standard description

This field is used for microbiology results. This field will be used when reporting susceptibility results for a previously identified organism. The field will contain two components: the OBSERVATION ID and the OBSERVATION SUB-ID of the previously sent OBX which reported the organism.

Example: AFB CULT^2.1

The example links susceptibility results to the second organism identified in an AFB Culture.

MEDITECH description

 $OBR \mid 26.1$ will contain the Res Code if it exists. If not, it will contain the MIC Procedure Mnemonic

MEDITECH element/value

If Res Code:

@LAB.M.PROC.lab.site.val.res.code

MIC Procedure Mnemonic: @LAB.M.PROC.mnemonic

Used in Message Segment: ORU OBR

00559 HL7 SET ID -OBSERVATION SIMPLE 10 SI
MT SET ID -OBSERVATION SIMPLE 10 AN

Used in Message Segment: ORU OBX

00560 HL7 OBSERVATION IDENTIFIER 590 CE MT OBSERVATION IDENTIFIER 590 AN

HL7 standard description

The Observation Identifier field consists of the following components:

Component 1: test/procedure mnemonic

Component 2: test/procedure text description Component 3: indicates the coding scheme

'L' in the third component indicates a locally defined scheme

Component 4: test/procedure abbreviation

Component 5: test/procedure type

Component 6: test/procedure Print Number

Used in Message Segment: ORU OBX

 00561
 HL7
 OBSERVATION RESULT
 150
 ST

 MT
 OBSERVATION RESULTS
 150
 AN

HL7 standard description

For text results, the value of this field should be a free text string (TX).

For discete laboratory results, the value in this field should be a string (ST).

For discrete microbiology results, the value in this field will either be a string (ST) or a coded entry (CE).

For string results, the OBSERVATION RESULTS field will contain up to 80 characters of text results. For antibiotic susceptibilities, the OBSERVATION RESULTS field may contain a one-character interpretation (R, I, or S).

For coded entry of organism identifications, the OBSERVATION RESULTS first component will contain a organism mnemonic, while the second component contains the organism name.

Used in Message Segment: ORU OBX

00562 HL7 UNITS 60 ST MT UNITS 60 AN

HL7 standard description

Units for the observation.

Used in Message Segment: ORU OBX

00563	HL7	REFERENCES	RANGE	10	ST
	MT	REFERENCES	RANGE	10	AN

The reference range for the observation.

Used in Message Segment: ORU OBX

00564	HL7	ABNORMAL	FLAGS	5	ST
	MT	ABNORMAL	FLAGS	5	AN

HL7 standard description

This field contains a table lookup indicating the normalcy status of the result. We strongly recommend sending this value when applicable. (See ASTM 1238 - review for more details). Refer to User-defined Table 0078 - Abnormal flags for valid entries.

When the laboratory can discern the normal status of a textual report, such as chest X-ray reports or microbiologic culture, these should be reported as N when normal and A when abnormal. Multiple codes, e.g., abnormal and worse, would be separated by a repeat delimiter, e.g., A.

Value	Description
L	Below low normal
Н	Above high normal
LL	Below lower panic limits
HH	Above upper panic limits
<	Below absolute low-off instrument scale
>	Above absolute high-off instrument scale
N	Normal (applies to non-numeric results)
Α	Abnormal (applies to non-numeric results)
AA	Very abnormal (applied to non-numeric units, analogous to panic
	limits for numeric units)
null	No range defined, or normal ranges don't apply
U	Significant change up
D	Significant change down
В	Betteruse when direction not relevant
W	Worseuse when direction not relevant
S	Susceptible. Indicates for microbiology susceptibilities only.
R	Resistant. Indicates for microbiology susceptibilities only.
I	Intermediate. Indicates for microbiology susceptibilities only.
MS	Moderately susceptible. Indicates for microbiology susceptibilities only.
VS	Very susceptible. Indicates for microbiology susceptibilities only.

MEDITECH description

This field contains a table lookup indicating the normalcy status of the result. See HL7 table 0078 - Abnormal flags for valid entries.

Laboratory results, numeric:

L - low H - high

LL - critical low HH - critical high Laboratory results, non-numeric:

A - abnormal N - normal

"A" will be sent if the internal abnormal flag on the specimen exists, otherwise "N" will be sent for abnormal non-numeric results.

Microbiology results:

For query (prompt) responses, this will be "A" or "N".

For antibiotic OBX segments, reaction:

VS - very sensitive

MS - moderately sensitive

 $\ensuremath{\mathsf{MR}}$ - moderately resistant

VR - very resistant

S - sensitive

I - intermediate

r - resistant

Used in Message Segment: ORU OBX

00566 HL7 OBSERVATION RESULT STATUS 1 ID
MT OBSERVATION RESULT STATUS 1 AN

HL7 standard description

Refer to HL7 V2.1 table 0085 for valid codes.

MEDITECH value: Supported table codes are:

C Correction of previously transmitted results

F Final results

P Preliminary result for micro specimen.

D Deletion of a previously transmitted result

Used in Message Segment: ORU OBX

 00572
 HL7
 SET ID - PATIENT ID
 4
 SI

 MT
 SET ID - PATIENT ID
 4
 AN

Used in Message Segment: ORU PID

HL7 standard description

For multiple data sets, the SET ID field is used to identify repetitions.

Used in Message Segments: ORU NTE, ORU NTE

00575 HL7 COMMENT 120 TX MT SPECIMEN/RESULT COMMENTS 120 AN

HL7 standard description

If the NTE segment follows an OBR segment, this field will contain either a line of comments from the MEDITECH Lab or Micro specimen comments, or an Order query in the Format "Ordered Test: Query Description: Query Text", where Ordered Test is the mnemonic of the Ordered test as valued in field 4, component 1 of the preceding OBR segment, and the Query Text is the query response placed in the second component of NTE Field 3.

If the NTE segment follows an OBX segment, this field will contain one line of a MEDITECH Lab test result comment or Micro interpretation comment.

If the NTE segment follows an ORC segment with a Cancel status, then this field will contain one line of a Lab or Micro specimen cancel comment.

Used in Message Segments: ORU NTE, ORU NTE

00581 HL7 PATIENT ID (EXTERNAL ID) 20 CK MT MRI HUB ID 20 AN

MEDITECH description

The MRI.HUB.mri.hub.id value is only sent for HL7 versions 2.2 or less.

Used in Message Segment: ORU PID

 00676
 HL7
 VALUE TYPE
 2
 ID

 MT
 VALUE TYPE
 2
 AN

HL7 standard description

NM = Numeric results

ST = Non-Numeric results

TX = text report

CE = Coded Entry

Used in Message Segment: ORU OBX

00732 HL7 PLACERS ORDER # 75 CM
MT PLACERS ORDER # 75 AN

HL7 standard description

Uniquely identifies an order among all orders from a particular ordering application.

This field will be populated with the following values separated by the component character:

Requisition Number^Specimen URN^Module (ie: LAB)

Used in Message Segment: ORU OBR

00733 HL7 FILLERS ORDER # 75 CM MT FILLERS ORDER # 75 AN

This field will be populated with the following values separated by the component character:

External Specimen Number^Specimen URN^Module^Complete External Specimen Number

Used in Message Segment: ORU OBR

00734 HL7 RESULT STATUS 1 ID
MT SPECIMEN STATUS 4 AN

HL7 standard description

This field will send the status of the Specimen.

The following values can be generated (depending on the LAB setup):

CAN - Cancelled

COLB - Collection Batch

COMP - Complete ORD - Ordered

P - Pending RECD - Received

RES - Resulted

UNV - Unverified (Only if SEND ALL parameter within the LAB Site Dictionary is

set to 'Y')

WKST - Worksheet

MEDITECH element/value

IF @LAB.B.SPEC.status, @LAB.L.SPEC.status or @LAB.M.SPEC.status then the following values will be sent:

EVENT	OBR 25.1	OBR 25.2
CAN	X	Cancelled
ORD	0	Ordered
COLB	COLB	Collection Batch
RECD	I	Received
WKST	WKST	Worksheet
UNV	UNV	Unverified
RES	R	Resulted
COMP	F	Complete

Used in Message Segment: ORU OBR

 00737
 HL7
 PARENT ACCESSION #
 200
 CM

 MT
 PARENT ACCESSION #
 200
 AN

HL7 standard description

MEDITECH MICRO value:

Used for Micro only when susceptibilities are being linked to a previous culture.

When reporting susceptibility results, this field will have the MEDITECH specimen accession number to indicate that this battery of results is linked to a previously reported culture battery. MEDITECH does not create a different accession number for culture and susceptibility results. Therefore, this will be the same number as the FILLERS ORDER # field.

Used in Message Segment: ORU OBR

 00769
 HL7
 OBSERVATION SUB-ID
 20
 ST

 MT
 OBSERVATION SUB-ID
 20
 AN

HL7 standard description

The OBSERVATION SUB-ID is only used when identifying isolated organisms in microbiology. Each isolated organism is assigned a non-zero numeric identifier that is unique by procedure. This identifier is then used in the LINKED RESULTS field of a subsequent OBR segment to refer to the organism.

Used in Message Segment: ORU OBX

 01030
 HL7
 COLLECTOR'S COMMENT
 200
 CE

 MT
 CANCEL COMMENTS
 200
 AN

HL7 standard description

This field contains the cancellation comments.

Used in Message Segment: ORU OBR

01331 HL7 Container Identifier 80 EI MT Container Identifier 80 EI

MEDITECH description

This field contains the specimen identifiers found on the specimen's container.

Component 1: Specimen Number Component 2: Specimen URN

Component 3: Module

Component 4: Complete Specimen Number

Used in Message Segment: ORU SAC

01635 HL7 PRIORITY 250 ST MT PRIORITY 10 AN

HL7 standard description

This field contains the priority.

MEDITECH description

This field contains the specimen priority.

Used in Message Segment: ORU TQ1

01754 HL7 Set ID MT Set ID 4 SI 4 SI

ST

ST

HL7 standard description

This field contains the SET ID sequence number of the TQ1 segment. Since only one TQ1 segment is sent per OBR segment, this field is not used by MEDITECH.

MEDITECH description

This field contains the sequence number. This field is used to identify SPM segment instances in message structures where the SPM segment repeats.

Used in Message Segment: ORU SPM

 01755
 HL7
 Specimen ID
 80

 MT
 Specimen ID
 80

MEDITECH description

This field contains the specimen identifier components:

Component 1: Requistion Number Component 2: Specimen URN

Component 3: Module

Used in Message Segment: ORU SPM

01756 HL7 Specimen Parent IDs 80 ST MT Specimen Parent IDs 80 ST

MEDITECH description

This field contains the Specimen Parent identifier components:

Component 1: Specimen Number Component 2: Specimen URN

Component 3: Module

Component 4: Complete Specimen Number

Used in Message Segment: ORU SPM

01759 HL7 Specimen Collection Method 250 ST MT Specimen Collection Method 250 SN

This field contains the Specimen Collection Method:

Component 1: Method Mnemonic Component 2: Method Name

Used in Message Segment: ORU SPM

Specimen Collection Date/Time 01765 HL7 26 DR DT ΜT

Specimen Collection Date/Time 26

MEDITECH description

This field contains the Specimen Collection date/time in YYYYMMDDTTTT format.

Used in Message Segment: ORU SPM

01772 Number of Specimen Containers HL7 NM ΜT Number of Specimen Containers NM

MEDITECH description

This field contains the specimen contianer count.

Used in Message Segment: ORU SPM

01773 HL7 250 CD Container Type ΜT Container Type 250 ΑN

MEDITECH description

This field contains the Container Type information:

Component 1: Container Type Mnemonic

Component 2: Container Name

Used in Message Segment: ORU SPM

01900 HL7 Specimen Type 250 ST ΜT Specimen Type 250 AN

MEDITECH description

This field contains the Specimen Source information for MIC results only:

Component 1: Source Mnemonic

Component 2: Source Name

Component 3: Source Abbreviation

Component 4: Source Number Component 5: Source Category

Used in Message Segment: ORU SPM

MSA.2	HL7	MESSAGE CONTROL ID	20	ST
	MT	MESSAGE CONTROL ID	20	AN

The MESSAGE CONTROL ID of the message which is being acknowledged. This must be returned by the Receiving System to the Sending System in order to match an acknowledgement message with the message being acknowledged.

Used in Message Segment: ACK MSA

MSH.10 HL7 MESSAGE CONTROL ID 20 ST MT MESSAGE CONTROL ID 20 AN

HL7 standard description

A number or other identifier that uniquely identifies the message.

Used in Message Segments: ACK MSH, ORU MSH

NK1.2 HL7 Name 250 XPN MT Name 250 XPN

HL7 standard description

This field contains the name of the next of kin or associated party.

Used in Message Segment: ORU NK1

NK1.3 HL7 Relationship 250 CE MT Relationship 10 CE

HL7 standard description

This field contains the actual personal relationship that the next of kin or associated party has to the patient.

Component 1: Relationship mnemonic Component 2: Relationship description

Used in Message Segment: ORU NK1

NK1.4 HL7 Address 250 XAD MT Address 250 XAD

HL7 standard description

This field contains the address of the next of kin/associated party.

Used in Message Segment: ORU NK1

NK1.5	HL7	Phone Number	250	XTN
	MT	Home Phone Number	20	XTN

This field contains the home telephone number of the next of kin/associated party.

Used in Message Segment: ORU NK1

NK1.6 HL7 Business Phone Number 250 XTN MT Business Phone Number 20 XTN

HL7 standard description

This field contains the business or work telephone number of the next of kin/associated party.

Used in Message Segment: ORU NK1

NK1.7 HL7 Contact Role 250 CE
MT Contact Role 3 CE

HL7 standard description

This field indicates the specific relationship role. The following values are possible:

NOK - Next of Kin NOT - Notify Person EMP - Employer

Used in Message Segment: ORU NK1

OM4.6 HL7 Specimen 250 CE MT MIC Specimen Description 250 CE

HL7 standard description

Intended for MIC Results only

MEDITECH description

This is a multi-component field and is intended for MIC Results ONLY.

OBR 27.1 = The MIC specimen's description

OBR 27.2 = The MIC specimen's description name

OBR 27.3 = The abbreviation for the MIC specimen's description name

OBR 27.1 - @LAB.M.SPEC.spec.desc OBR 27.2 - @LAB.M.SPDESC.name OBR 27.3 - @LAB.M.SPDESC.abbrev

Used in Message Segment: ORU OBR

PD1.1 HL7 Living Dependency 2 IS MT Set ID 2 N

HL7 standard description

This field contains the number that identifies this transaction. Since each result message will only contain information for one patient, the PD1 Set ID will always be valued at 1.

Used in Message Segment: ORU PD1

PD1.12 HL7 Protection Indicator 1 ID MT VIP Indicator 1 ID

HL7 standard description

This field identifies the VIP status of the patient.

Used in Message Segment: ORU PD1

PD1.2 HL7 Living Arrangement 2 IS MT Financial Class 10 CE

HL7 standard description

This field identifies the financial class of the patient.

Used in Message Segment: ORU PD1

PD1.4 HL7 Patient Primary Care Provider 250 XCN MT Patient Primary Care Provider 250 XCN

HL7 standard description

This field contains the following provider information:

Component 1: Primary care provider mnemonic and name.

Component 2: Family provider mnemonic and name

Used in Message Segment: ORU PD1

PID.8 HL7 SEX 1 ID MT SEX 1 AN

Patient sex may have one of the following values: M, F, or U.

MEDITECH element name: ADM.PAT.sex

Used in Message Segment: ORU PID

PV1.1 HL7 SET ID - PV1 4 SI MT SET ID - PV1 4 ST

HL7 standard description

This field contains the number that identifies this transaction. Since each result message will only contain information for one patient, the PV1 Set ID will always be valued at 1.

Used in Message Segment: ORU PV1

PV1.10 HL7 HOSPITAL SERVICE 3 IS MT HOSPITAL SERVICE 3 ST

HL7 standard description

This field contains the treatment or type of surgery that the patient is scheduled to receive. It is a required field with trigger events A01 (admit/visit notification), A02 (transfer a patient), A14 (pending admit), A15 (pending transfer). Refer to User-defined Table 0069 - Hospital service for suggested values.

User-defined Table 0069 - Hospital service Values Description MED Medical Service SUR Surgical Service URO Urology Service PUL Pulmonary Service

CAR Cardiac Service

Used in Message Segment: ORU PV1

PV1.14 HL7 Admit Source 6 IS MT Admit Source 6 IS

HL7 standard description

Definition: This field indicates where the patient was admitted.

Possible Values are defined in the MIS Admit Source dictionary.

Used in Message Segment: ORU PV1

PV1.16 HL7 VIP Indicator 2 IS MT VIP Indicator 2 IS

This field identifies the type of VIP.

Used in Message Segment: ORU PV1

PV1.20 HL7 FINANCIAL CLASS 50 FC MT FINANCIAL CLASS 50 ST

HL7 standard description

This field contains the financial class(es) assigned to the patient for the purpose of identifying sources of reimbursement.

Used in Message Segment: ORU PV1

PV1.3 HL7 ASSIGNED PATIENT LOCATION 80 PL
MT ASSIGNED PATIENT LOCATION 80 ST

HL7 standard description

This field contains the patient's initial assigned location or the location to which the patient is being moved. The first component may be the nursing station for inpatient locations, or clinic or department, for locations other than inpatient. For canceling a transaction or discharging a patient, the current location (after the cancellation event or before the discharge event) should be in this field. If a value exists in the fifth component (location status), it supersedes the value in PV1-40 - Bed Status.

Used in Message Segment: ORU PV1

PV1.36 HL7 Discharge Disposition 3 IS MT Discharge Disposition 3 IS

HL7 standard description

This field contains the disposition of the patient at time of discharge.

Used in Message Segment: ORU PV1

PV1.39 HL7 SERVICING FACILITY 2 IS MT SERVICING FACILITY 2 ST

HL7 standard description

This field is used in a multiple facility environment to indicate the healthcare facility with which this visit is associated.

An optional sixth component, the facility ID, may be valued in each individual location field in PV1, instead of placing it here.

Used in Message Segment: ORU PV1

PV1.4 HL7 Admission Type 2 IS MT Admission Priority 2 IS

HL7 standard description

Definition: This field indicates the circumstances under which the patient was or will be admitted.

Possible Values are obtained from the MIS ADM Priority Dictionary

Used in Message Segment: ORU PV1

PV1.41 HL7 ACCOUNT STATUS 2 IS MT ACCOUNT STATUS 2 ST

HL7 standard description

This field contains the account status.

Used in Message Segment: ORU PV1

PV1.44 HL7 ADMIT DATE/TIME 26 TS MT ADMIT DATE/TIME 12 ST

HL7 standard description

This field contains the admit date/time. It is to be used if the event date/time is different than the admit date and time, i.e., a retroactive update. This field is also used to reflect the date/time of an outpatient/emergency patient registration.

Used in Message Segment: ORU PV1

PV1.45 HL7 DISCHARGE DATE/TIME 26 TS MT DISCHARGE DATE/TIME 26 ST

HL7 standard description

This field contains the discharge date/time. It is to be used if the event date/time is different than the discharge date and time, that is, a retroactive update. This field is also used to reflect the date/time of an outpatient/emergency patient discharge.

Used in Message Segment: ORU PV1

PV1.7 HL7 ATTENDING DOCTOR 250 XCN MT ATTENDING DOCTOR 250 CM

This field contains the attending physician information. Multiple names and identifiers for the same physician may be sent. The field sequences are not used to indicate multiple attending doctors. The legal name must be sent in the first sequence. If the legal name is not sent, then a repeat delimiter must be sent in the first sequence. Depending on local agreements, either ID or the name may be absent in this field.

Used in Message Segment: ORU PV1

PV1.8 HL7 REFERRING DOCTOR 250 XCN
MT REFERRING DOCTOR 250 CM

HL7 standard description

This field contains the referring physician information. Multiple names and identifiers for the same physician may be sent. The field sequences are not used to indicate multiple referring doctors. The legal name must be sent in the first sequence. If the legal name is not sent, then a repeat delimiter must be sent in the first sequence. Depending on local agreements, either the ID or the name may be absent from this field.

Used in Message Segment: ORU PV1

PV1.9 HL7 CONSULTING DOCTOR 250 XCN MT CONSULTING DOCTOR 250 XCN

HL7 standard description

Definition: This field has been retained for backward compatibility only. It is recommended to use the ROL - Role segment for consulting physicians instead. This field contains the consulting physician information. The field sequences are used to indicate multiple consulting doctors. Depending on local agreements, either the ID or the name may be absent from this field. Refer to User-defined Table 0010 - Physician ID for suggested values.

Used in Message Segment: ORU PV1

 PV117
 HL7
 ADMITTING DOCTOR
 250
 XCN

 MT
 ADMITTING DOCTOR
 250
 CM

HL7 standard description

This field contains the admitting physician information. Multiple names and identifiers for the same physician may be sent. The field sequences are not used to indicate multiple admitting doctors. The legal name must be sent in the first sequence. If the legal name is not sent, then a repeat delimiter must be sent in the first sequence. By local agreement, the name or ID may be absent in this field. Refer to User-defined Table 0010 - Physician ID for suggested values.

Used in Message Segment: ORU PV1

PV118 HL7 PATIENT TYPE 2 IS MT PATIENT TYPE 2 ST

HL7 standard description

This field contains site-specific values that identify the patient type.

Used in Message Segment: ORU PV1

PV2.10 HL7 Estimated Length of Inpatient 3 NM MT Estimated Length of Inpatient 4 NM

HL7 standard description

This field specifies the estimated days of inpatient stays.

Used in Message Segment: ORU PV2

PV2.12 HL7 Visit Description 50 ST MT Admit Comment 50 ST

HL7 standard description

This field contains a brief user-defined description of the visit.

Component 1: Admit Comment Component 2: Smoke Objections

Component 3: Entry code (Canada only)
Component 4: Entry code name (Canada only)

Used in Message Segment: ORU PV2

PV2.16 HL7 Purge Status Code 1 IS
MT Confidential Flag 1 IS

HL7 standard description

This field contains a confidential flag.

Used in Message Segment: ORU PV2

PV2.2 HL7 Accomodation Code 250 CE MT Accomodation Code 10 CE

HL7 standard description

This field indicates the specific patient accommodations for this visit in the following format:

Component 1: Accommodation mnemonic

Component 2: Accommodation name Component 3: Accommodation mnemonic

Used in Message Segment: ORU PV2

PV2.22 HL7 **Visit Protection Indicator**

ΜT Confidential Flag 1 ID ID

HL7 standard description

This field contains a confidential flag.

Used in Message Segment: ORU PV2

PV2.3 HL7 Admit Reason ΜT

Admit Reason

250 CE 50 CE

HL7 standard description

This field contains the short description of the reason for patient admission.

Used in Message Segment: ORU PV2

PV2.8 Expected Admit Date/Time HL7

ΜT Decision to Admit Date/Time 26 TS

TS

26

HL7 standard description

This field contains the date and time of the decision to admit.

Component 1: Date Component 2: Time

Used in Message Segment: ORU PV2

XX.SITE **Collection Volume** 20 CE HL7

Ordering Site CE MT 10

HL7 standard description

This field contains the Ordering Site Mnemonic and description separated by a

component character.

Used in Message Segment: ORU OBR

CE XX583 HL7 PRODUCER'S ID 60 ΜT

PRODUCER'S ID 60 AN

HL7 standard description

Component 1 contains the performing site mnemonic for the test/procedure whose result is being reported in field 5 of the current OBX segment.

Component 2 contains the name/description associated with that site mnemonic in the LAB LIS Site dictionary $\frac{1}{2}$

Conmponent 3 = "L"

Used in Message Segment: ORU OBX