

# What is the proper representation of pathology test result date / time?

## Question

What value should go in "Pathology Test Result > Pathology Test Result DateTime"? (in all documents except SHS)

## Background

The definition of Pathology Test Result > Pathology Test Result DateTime is:

*The date and, optionally, time of the Pathology Test Result observation. If the Pathology Test Result Duration is non-zero, it is the time at which the Pathology Test Result observation was completed, i.e. the date (and time) of the trailing edge of the Pathology Test Result Duration.*

This explanation is not that useful for helping implementers choose which date to put in this element. In practice, there are many dates to pick from, the most common of which are given below:

Date/time	Explanation
Request date	The date that the requesting clinician asked for the test to be performed. This is relevant because if there's a long delay between request and test, the result may have become irrelevant. Alternatively, the date may help clarify why a test was requested.
Specimen collection date/time	This is the most important date – for the vast majority of tests, the time that the specimen is extracted is the physiologically relevant time of the pathology test.  The collection date may be an interval – i.e. the specimen is urine collected over a 24-hour period.
Specimen reception date/time	The time that the diagnostic service takes custody of the specimen and begins to process it. In the context where the diagnostic service takes custody of the specimen directly (i.e. private pathology specimen collection rooms) the exact meaning of the field is ambiguous.
Specimen processing date/time	Some notional time at which the specimen was "processed". In practice, processing the specimen takes some time and has multiple steps that may be of interest. Different tests have radically different processing pathways, so there is no consistent definition of what 'specimen processing date' means, but sometimes a particular processing date is useful to clinical users.
Date/time first report provided	The date that the report was first made available to the clinical service that requested the test. This may be before or after the report is first authorised.
Date/time authorised	The date that the report was authorised as being complete and checked.
Date/time current report provided	The date that this current report was provided.

## Clinically relevant date

The most important date is the point in the course of the patient's condition that the result pertains to. This is sometimes called the "observation date", though this is a loose term with multiple meanings. Generally the clinically relevant date is the same as the specimen collection date.

However, there are a few cases where the clinically relevant date is not actually the specimen collection date. Most of these are where a single pathology test result involves multiple specimens collected at different times, such as Creatinine Clearance, or Endocrine functional tests (e.g. GTT or synacthen tests). For these tests, the clinically relevant date is an interval – a period of time that includes all the specimens. Note that the relationship between the specimen time(s) and the clinically relevant date is not as simple as the hull of the specimen times (hull = smallest interval that covers a set of other times/intervals – defined in the CDA data types).

The other reason that the clinically relevant date is not necessarily the specimen collection time is because in the context of secondary use (a clinical system populating pathology data into the CDA document), where the report is represented by an HL7 v2 message, the only information that is available is the "Observation Date Time" – OBR-7 and -8. No other specimen information may be known, such as how many specimens there are.

Therefore, due to the complexities of testing and the limitations of existing information systems, we have to add an additional date:

Date	Explanation
Clinically relevant date	The point in time at which the pathology test result describes the state of the patient

This will almost always be the same as the specimen collection time, but we cannot assert that they are the same.

## Answer

The definition of the SCS field Pathology Test Result > Pathology Test Result DateTime does not resolve which date it refers to, and neither does the CDA mapping, which maps the date to a component observation with code "103.16605" in code system "1.2.36.1.2001.1001.101". This is an internally defined code with the same definition as the Pathology Test Result > Pathology Test Result DateTime field given above. Different implementations have mapped this field to different dates. In future, this field will be withdrawn.

Implementers are encouraged to adopt the following mappings in their CDA document (future versions of the SCS and CDA implementation guides will specify these mappings):

Date	CDA mapping
Request date	entry[path_test_res]/observation/ entryRelationship[req_dets]/act/ effectiveTime /@value
Specimen collection date	entryRelationship[spec]/observation/ effectiveTime  per existing mapping – either a point in time (@value) or an interval (low + high)

<b>Date</b>	<b>CDA mapping</b>
Specimen reception date	entryRelationship[spec]/observation/ entryRelationship[date_rec]/observation/ value:TS  per existing mapping – either a point in time (@value) or an interval (low + high)
Specimen processing date	Not mapped at present – may be resolved in the future if sufficient demand exists
Date first report provided	Not mapped at present – may be resolved in the future if sufficient demand exists
Date authorised	Not mapped at present – may be resolved in the future if sufficient demand exists
Date current report provided	entry[path_test_res]/observation/ author/time/@value
Clinically relevant date	entry[path_test_res]/observation/effectiveTime either a point in time (@value) or an interval (low + high)

Because the Pathology Test Result > Pathology Test Result DateTime is a mandatory field, it must contain a value (this rule will be withdrawn at some stage).

## Clinical safety warning

NEHTA recommends that the Pathology Test Result > Pathology Test Result DateTime **SHOULD** contain the clinically relevant date (which would usually also be the specimen collection date, as explained above).

However, this is only a recommendation – existing implementations are not required to change their usage to conform to this advice. For this reason, implementations should not make assumptions about which particular date the Pathology Test Result > Pathology Test Result DateTime field contains when processing a CDA document.

## HL7 v2 Mapping Table

To help implementers, the v2 mapping table for these concepts is given below:

<b>Date</b>	<b>HL7 v2 mapping</b>
Request date	OBR-6/ORC-9?
Specimen collection date	May be implied by OBR-7/8, but see notes above – depends on the source system. No other place in v2.4 (SPM-17 in v2.5+)
Specimen reception date	OBR-14 (SPM-16 in v2.5+)
Specimen processing date	--
Date first report provided	--
Date authorised	--
Date current report provided	OBR-22
Clinically relevant date	OBR-7/-8

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