

Figure 209: Quantity Measurement Observation Example

```
<observation classCode="OBS" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.6.2.14"/>
  <code code="439984002" codeSystem="2.16.840.1.113883.6.96"
    codeSystemName="SNM3"
    displayName="Diameter of structure">
    <originalText>
      <reference value="#Diam2"/>
    </originalText>
  </code>
  <statusCode code="completed"/>
  <effectiveTime value="200802260805-0800"/>
  <value xsi:type="PQ" value="45" unit="mm"
    codeSystemVersion="1.5"/>
  <!-- entryRelationships to SOP Instance Observations may go here -->
</observation>
```

3.90 Reaction Observation (V2)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.9:2014-06-09
(open)]

Table 453: Reaction Observation (V2) Contexts

Contained By:	Contains:
Medication Activity (V2) (optional) Procedure Activity Procedure (V2) (optional) Procedure Activity Observation (V2) (optional) Allergy - Intolerance Observation (V2) (optional) Substance or Device Allergy - Intolerance Observation (V2) (optional) Immunization Activity (V3) (optional) Health Concern Act (V2) (optional) Risk Concern Act (V2) (optional)	Medication Activity (V2) (optional) Procedure Activity Procedure (V2) (optional) Severity Observation (V2) (optional)

This clinical statement represents the response to an undesired symptom, finding, etc. due to administered or exposed substance. A reaction can be defined described with respect to its severity, and can have been treated by one or more interventions.

Table 454: Reaction Observation (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.9:2014-06-09)					
@classCode	1..1	SHALL		1098-7325	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		1098-7326	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
templateId	1..1	SHALL		1098-7323	
@root	1..1	SHALL		1098-10523	2.16.840.1.113883.10.20.22.4.9
@extension	1..1	SHALL		1098-32504	2014-06-09
id	1..*	SHALL		1098-7329	
code	1..1	SHALL		1098-16851	
@code	1..1	SHALL		1098-31124	ASSERTION
@codeSystem	1..1	SHALL		1098-32169	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode) = 2.16.840.1.113883.5.4
statusCode	1..1	SHALL		1098-7328	
@code	1..1	SHALL		1098-19114	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	0..1	SHOULD		1098-7332	
low	0..1	SHOULD		1098-7333	
high	0..1	SHOULD		1098-7334	
value	1..1	SHALL	CD	1098-7335	urn:oid:2.16.840.1.113883.3.88.12.3221.7.4 (Problem)
entryRelationship	0..*	MAY		1098-7337	
@typeCode	1..1	SHALL		1098-7338	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
@inversionInd	1..1	SHALL		1098-7343	true
procedure	1..1	SHALL		1098-15920	Procedure Activity Procedure (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.14:2014-06-09)
entryRelationship	0..*	MAY		1098-7340	

XPath	Card.	Verb	Data Type	CONF#	Value
@typeCode	1..1	SHALL		1098-7341	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
@inversionInd	1..1	SHALL		1098-7344	true
substanceAdministration	1..1	SHALL		1098-15921	Medication Activity (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.16:2014-06-09)
entryRelationship	0..1	MAY		1098-7580	
@typeCode	1..1	SHALL		1098-7581	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ
@inversionInd	1..1	SHALL		1098-10375	true
observation	1..1	SHALL		1098-15922	Severity Observation (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.8:2014-06-09)

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" Observation (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:1098-7325).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:1098-7326).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:1098-7323) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.9" (CONF:1098-10523).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2014-06-09" (CONF:1098-32504).
4. **SHALL** contain at least one [1..*] **id** (CONF:1098-7329).
5. **SHALL** contain exactly one [1..1] **code** (CONF:1098-16851).
 - a. This code **SHALL** contain exactly one [1..1] **@code**="ASSERTION" (CONF:1098-31124).
 - b. This code **SHALL** contain exactly one [1..1] **@codeSystem**="2.16.840.1.113883.5.4" (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:1098-32169).
6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:1098-7328).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14 **STATIC**) (CONF:1098-19114).
7. **SHOULD** contain zero or one [0..1] **effectiveTime** (CONF:1098-7332).
 - a. The effectiveTime, if present, **SHOULD** contain zero or one [0..1] **low** (CONF:1098-7333).
 - b. The effectiveTime, if present, **SHOULD** contain zero or one [0..1] **high** (CONF:1098-7334).

8. **SHALL** contain exactly one [1..1] **value** with `@xsi:type="CD"`, where the code **SHALL** be selected from ValueSet [Problem](#) urn:oid:2.16.840.1.113883.3.88.12.3221.7.4 **DYNAMIC** (CONF:1098-7335).
9. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:1098-7337) such that it
 - a. **SHALL** contain exactly one [1..1] `@typeCode="RSON"` Has reason (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002 **STATIC**) (CONF:1098-7338).
 - b. **SHALL** contain exactly one [1..1] `@inversionInd="true"` True (CONF:1098-7343).

This procedure activity is intended to contain information about procedures that were performed in response to an allergy reaction.

- c. **SHALL** contain exactly one [1..1] [Procedure Activity Procedure \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.14:2014-06-09) (CONF:1098-15920).
10. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:1098-7340) such that it
 - a. **SHALL** contain exactly one [1..1] `@typeCode="RSON"` Has reason (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002 **STATIC**) (CONF:1098-7341).
 - b. **SHALL** contain exactly one [1..1] `@inversionInd="true"` True (CONF:1098-7344).

This medication activity is intended to contain information about medications that were administered in response to an allergy reaction.

- c. **SHALL** contain exactly one [1..1] [Medication Activity \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.16:2014-06-09) (CONF:1098-15921).
11. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:1098-7580) such that it
 - a. **SHALL** contain exactly one [1..1] `@typeCode="SUBJ"` Has subject (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002 **STATIC**) (CONF:1098-7581).
 - b. **SHALL** contain exactly one [1..1] `@inversionInd="true"` TRUE (CONF:1098-10375).
 - c. **SHALL** contain exactly one [1..1] [Severity Observation \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.8:2014-06-09) (CONF:1098-15922).

Figure 210: Reaction Observation (V2) Example

```
<observation classCode="OBS" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.9" extension="2014-06-09" />
  <id root="4adc1020-7b14-11db-9fe1-0800200c9a64" />
  <code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4" />
  <text>
    <reference value="#reaction1" />
  </text>
  <statusCode code="completed" />
  <effectiveTime>
    <low value="200802260805-0800" />
    <high value="200802281205-0800" />
  </effectiveTime>
  <value xsi:type="CD" code="422587007" codeSystem="2.16.840.1.113883.6.96"
displayName="Nausea" />
  <entryRelationship typeCode="SUBJ" inversionInd="true">
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.8" extension="2014-06-09" />
      . . .
    </observation>
  </entryRelationship>
</observation>
```

3.91 *Referenced Frames Observation*

[observation: identifier urn:oid:2.16.840.1.113883.10.20.6.2.10 (open)]

Table 455: Referenced Frames Observation Contexts

Contained By:	Contains:
SOP Instance Observation (optional)	Boundary Observation (required)

A Referenced Frames Observation is used if the referenced DICOM SOP instance is a multiframe image and the reference does not apply to all frames. The list of integer values for the referenced frames of a DICOM multiframe image SOP instance is contained in a Boundary Observation nested inside this class.