

**Figure 210: 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:
<a href="#">Medication Activity (V2)</a> (optional) <a href="#">Procedure Activity Procedure (V2)</a> (optional) <a href="#">Procedure Activity Observation (V2)</a> (optional) <a href="#">Allergy - Intolerance Observation (V2)</a> (optional) <a href="#">Substance or Device Allergy - Intolerance Observation (V2)</a> (optional) <a href="#">Immunization Activity (V3)</a> (optional) <a href="#">Health Concern Act (V2)</a> (optional) <a href="#">Risk Concern Act (V2)</a> (optional)	<a href="#">Medication Activity (V2)</a> (optional) <a href="#">Procedure Activity Procedure (V2)</a> (optional) <a href="#">Severity Observation (V2)</a> (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		<a href="#">1098-7325</a>	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">1098-7326</a>	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
templateId	1..1	SHALL		<a href="#">1098-</a>	

XPath	Card.	Verb	Data Type	CONF#	Value
				<a href="#">7323</a>	
@root	1..1	SHALL		<a href="#">1098-10523</a>	2.16.840.1.113883.10.20.22.4.9
@extension	1..1	SHALL		<a href="#">1098-32504</a>	2014-06-09
id	1..*	SHALL		<a href="#">1098-7329</a>	
code	1..1	SHALL		<a href="#">1098-16851</a>	
@code	1..1	SHALL		<a href="#">1098-31124</a>	ASSERTION
@codeSystem	1..1	SHALL		<a href="#">1098-32169</a>	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode) = 2.16.840.1.113883.5.4
statusCode	1..1	SHALL		<a href="#">1098-7328</a>	
@code	1..1	SHALL		<a href="#">1098-19114</a>	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	0..1	SHOULD		<a href="#">1098-7332</a>	
low	0..1	SHOULD		<a href="#">1098-7333</a>	
high	0..1	SHOULD		<a href="#">1098-7334</a>	
value	1..1	SHALL	CD	<a href="#">1098-7335</a>	urn:oid:2.16.840.1.113883.3.88.12.3221.7.4 (Problem)
entryRelationship	0..*	MAY		<a href="#">1098-7337</a>	
@typeCode	1..1	SHALL		<a href="#">1098-7338</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
@inversionInd	1..1	SHALL		<a href="#">1098-7343</a>	true
procedure	1..1	SHALL		<a href="#">1098-15920</a>	<a href="#">Procedure Activity Procedure (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.14:2014-06-09)</a>
entryRelationship	0..*	MAY		<a href="#">1098-7340</a>	
@typeCode	1..1	SHALL		<a href="#">1098-7341</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
@inversionInd	1..1	SHALL		<a href="#">1098-7344</a>	true
substanceAdministration	1..1	SHALL		<a href="#">1098-15921</a>	<a href="#">Medication Activity (V2) (identifier:</a>

XPath	Card.	Verb	Data Type	CONF#	Value
					<a href="urn:hl7ii:2.16.840.1.113883.10.20.22.4.16:2014-06-09">urn:hl7ii:2.16.840.1.113883.10.20.22.4.16:2014-06-09</a>
entryRelationship	0..1	MAY		<a href="#">1098-7580</a>	
@typeCode	1..1	SHALL		<a href="#">1098-7581</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ
@inversionInd	1..1	SHALL		<a href="#">1098-10375</a>	true
observation	1..1	SHALL		<a href="#">1098-15922</a>	<a href="#">Severity Observation (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.8:2014-06-09)</a>

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 211: 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:
<a href="#">SOP Instance Observation</a> (optional)	<a href="#">Boundary Observation</a> (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.

**Table 456: Referenced Frames Observation Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:oid:2.16.840.1.113883.10.20.6.2.10)					
@classCode	1..1	SHALL		<a href="#">81-9276</a>	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ROIBND
@moodCode	1..1	SHALL		<a href="#">81-9277</a>	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
code	1..1	SHALL		<a href="#">81-19164</a>	
@code	0..1	MAY		<a href="#">81-19165</a>	urn:oid:1.2.840.10008.2.16.4 (DCM) = 121190
entryRelationship	1..1	SHALL		<a href="#">81-9279</a>	
@typeCode	1..1	SHALL		<a href="#">81-9280</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP
observation	1..1	SHALL		<a href="#">81-15923</a>	<a href="#">Boundary Observation (identifier: urn:oid:2.16.840.1.113883.10.20.6.2.11)</a>

1. **SHALL** contain exactly one [1..1] **@classCode="ROIBND"** Bounded Region of Interest (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:81-9276).
2. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:81-9277).
3. **SHALL** contain exactly one [1..1] **code** (CONF:81-19164).
  - a. This code **MAY** contain zero or one [0..1] **@code="121190"** Referenced Frames (CodeSystem: DCM urn:oid:1.2.840.10008.2.16.4 **STATIC**) (CONF:81-19165).
4. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:81-9279).
  - a. This entryRelationship **SHALL** contain exactly one [1..1] **@typeCode="COMP"** Component (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002 **STATIC**) (CONF:81-9280).
  - b. This entryRelationship **SHALL** contain exactly one [1..1] [Boundary Observation](#) (identifier: urn:oid:2.16.840.1.113883.10.20.6.2.11) (CONF:81-15923).