# Cardiology: Admission Orders - Heart Failure Order Set

## Order Set: Conceptual Structure

**Contract: VA118-16-D-1008, Task Order (TO): VA-118-16-F-1008-0007, CLIN0008DA**

**Department of Veterans Affairs (VA)**

# Cardiology: Admission Orders - Heart Failure Order Set: Order Set: Conceptual Structure

by Knowledge Based Systems (KBS), Office of Informatics and Information Governance (OIIG), and Clinical Decision Support (CDS)

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**Table 1. Revision History**

| Date | Life Cycle Event |
|---|---|
| April 10, 2018 | Published |
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**Table 2. Clinical White Paper Contributors**

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**Table 3. Artifact Identifier**

| Domain | Artifact ID | Name |
|---|---|---|
| urn:va.gov:kbs:knart:artifact:r1 | d65f4c6f-d870-5ecd-9d-f7-eb935c920d92 | O24 |

# Artifact Applicability

**Table 4. Applicability Foci, Description and Codes**

| Focus | Description | Code System Name | Code System | Code | Code System Version | Value Set | Value Set Version |
|---|---|---|---|---|---|---|---|
| PatientAgeGroup | Population 18 years old or older | | | | | | |
| ClinicalVenue | Outpatient clinic, hospital, and ED settings | | SNOMED CT | 33022008 \|Hospital-based outpatient department (environment)\| | | | |
| ClinicalFocus | diagnosis suggestive of initial or recurrent heart failure | | SNOMED CT | 84114007 \|Heart failure (disorder)\| | | | |
| WorkflowSetting | admission | | SNOMED CT | 305056002 \|Admission procedure (procedure)\| | | | |

# Models

**Table 5. Model References**

| Referenced Model | Description |
| --- | --- |
| urn:solor.io:anf-model:0.9 | VA Analysis Normal Form Model |

# Chapter 1. Admit to

Admit To?

Logical ▷

○

    ◎ prompt: Medical Ward

    response: Boolean (Single)

**responseBinding:** Property ("admitToMedicalWard")

**Condition:**elm:IsTrue ( elm:Property("admitToMedicalWard" from: elm:ParameterRef (Responses) ) )

◎ Medical Ward

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

    "statementType:Precoordinated Expression topic:Precoordinated Expression"

    (Codes: 385644000 |Requested (qualifier value)| 305342007 | Admission to ward (procedure)|)

Logical ▷

○

    ◎ prompt: Telemetry

    response: Boolean (Single)

**responseBinding:** Property ("admitToTelemetry")

**Condition:**elm:IsTrue ( elm:Property("admitToTelemetry" from: elm:ParameterRef (Responses) ) )

◎ Telemetry

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

    "statementType:Precoordinated Expression topic:Precoordinated Expression"

    (Codes: 385644000 |Requested (qualifier value)| 75f0ca2c-e68a-44ca-81f8-10e53ff7a855 |Admission to telemetry department (procedure)|)

Logical ▷

○

    ◎ prompt: Stepdown unit

    response: Boolean (Single)

**responseBinding:** Property ("admitToStepdownUnit")

**Condition:**elm:IsTrue ( elm:Property("admitToStepdownUnit" from: elm:ParameterRef (Responses) ) )

◎ Stepdown unit

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

    "statementType:Precoordinated Expression topic:Precoordinated Expression"

    (Codes: 385644000 |Requested (qualifier value)| 4d555c8a-d2af-4dbf-b81a-9eaddec2a7d8 |Admission to stepdown unit (procedure)|)

Logical ▷

◎ prompt: ICU

response: Boolean (Single)

**responseBinding:** Property ("admitToICU")

**Condition:**elm:IsTrue ( elm:Property("admitToICU" from: elm:ParameterRef (Responses) ) )

◎ ICU

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| 305351004 | Admission to intensive care unit (procedure)|)

Logical ▷

◎ prompt: Other Location

response: Boolean (Single)

**responseBinding:** Property ("admitToOtherLocation")

**Condition:**elm:IsTrue ( elm:Property("admitToOtherLocation" from: elm:ParameterRef (Responses) ) )

◎ Other Location

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| 305056002 | Admission procedure (procedure)|)

# Chapter 2. Diagnosis

○ prompt: Congestive heart failure (CHF)

response: Code (Single)

response range: EnumerationConstraint (List)

item: Congestive heart failure (CHF)([a997cc03-3e99-40eb-833a-6374c7750a3a |Observation procedure (procedure)] ->(363702006 |Has focus (attribute))->[42343007 |Congestive heart failure (disorder)])

☞ item: Obtain Other Diagnosis

# Chapter 3. Allergies

Medication Allergies?

Represented Concepts: [a997cc03-3e99-40eb-833a-6374c7750a3a |Observation procedure (procedure)] ->(363702006 |Has focus (attribute))->[416098002 |Drug allergy (disorder)]

- ○ prompt:  No known drug allergies
  response:  Boolean (Single)
- ○ Obtain Other List of allergies
    prompt:  Obtain Other List of allergies
  response:  Code (Multiple)

# Chapter 4. Code Status

○ prompt: Code Status?

response: Code (Single)

response range: EnumerationConstraint (List)

    item: Full code([a997cc03-3e99-40eb-833a-6374c7750a3a |Observation procedure (procedure)] ->(363702006 |Has focus (attribute))->[304252001 |For resuscitation (finding)])

    item: Do Not Resuscitate (DNR)([a997cc03-3e99-40eb-833a-6374c7750a3a |Observation procedure (procedure)] ->(363702006 |Has focus (attribute))->[304253006 |Not for resuscitation (finding)])

    item: Do Not Intubate (DNI)([a997cc03-3e99-40eb-833a-6374c7750a3a |Observation procedure (procedure)] ->(363702006 |Has focus (attribute))->[1371000205103 |Not for intubation (finding)])

☞ item: Other Code Status

# Chapter 5. Vital Signs and Monitoring

☐ Continuous telemetry

☐ Vital signs

☐ Routine

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Precoordinated Expression , priority:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| 61746007 |Taking patient vital signs (procedure)| 50811001 |Routine (qualifier value)|)

Logical ▷ ☐

◎ prompt: Obtain Vital Sign Frequency in Hours

response: Real (Single)

**responseBinding:** Property ("vitalSignFrequency")

◎ Obtain Vital Sign Every User Input Hours

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Precoordinated Expression , priority:Precoordinated Expression , repetition.periodDuration.lowerBound: 1 , repetition.periodDuration.includeLowerBound: TRUE , repetition.periodDuration.includeUpperBound: FALSE , repetition.periodDuration.resolution: 1 , repetition.periodDuration.measureSemantic:Precoordinated Expression , repetition.eventFrequency.lowerBound: vitalSignFrequency , repetition.eventFrequency.upperBound: vitalSignFrequency , repetition.eventFrequency.includeLowerBound: TRUE , repetition.eventFrequency.includeUpperBound: TRUE , repetition.eventFrequency.measureSemantic:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| 61746007 |Taking patient vital signs (procedure)| 50811001 |Routine (qualifier value)| 258702006 |hour (qualifier value)| 258702006 |hour (qualifier value)|)

☐ With pulse oximetry

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Precoordinated Expression , repetition.periodDuration.lowerBound: 1 , repetition.periodDuration.includeLowerBound: TRUE , repetition.periodDuration.includeUpperBound: FALSE , repetition.periodDuration.resolution: 1 , repetition.periodDuration.measureSemantic:Precoordinated Expression , repetition.eventFrequency.lowerBound: vitalSignFrequency , repetition.eventFrequency.upperBound: vitalSignFrequency , repetition.eventFrequency.includeLowerBound: TRUE , repetition.eventFrequency.includeUpperBound: TRUE , repetition.eventFrequency.measureSemantic:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| 252465000 |Pulse oximetry (procedure)| 258702006 |hour (qualifier value)| 258702006 | hour (qualifier value)|)

☐ Weight daily (pounds)

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Precoordinated Expression , requestedResult.measureSemantic:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| 39857003 |Weighing patient (procedure)| 258693003 |pounds (qualifier value)|)

☐ Height (inches)

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Precoordinated Expression , requestedResult.measureSemantic:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| 14456009 |Measuring height of patient (procedure)| 258677007 |Inch (qualifier value)|)

**Condition:**elm:IsTrue ( elm:Property("admitToMedicalWard" from: elm:ParameterRef (Responses) ) )

If admitted to medical ward, then display the medical ward section.

☐ Oxygen saturation every 4 hours

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Precoordinated Expression , repetition.eventFrequency.lowerBound: 4 , repetition.eventFrequency.upperBound: 4 , repetition.eventFrequency.includeLowerBound: TRUE , repetition.eventFrequency.includeUpperBound: TRUE , repetition.eventFrequency.measureSemantic:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| 39857003 |Weighing patient (procedure)| 258702006 |hour (qualifier value)|)

| Logical ▷ ☐ | Intake/output recording |
| --- | --- |
| | ✪ Routine per local policy |
| | actionSentence[type=elm:Instance, classType=anf:ClinicalStatement] |
| | "statementType:Precoordinated Expression topic:Precoordinated Expression , unstructured[0]: per local policy , priority:Precoordinated Expression" |
| | (Codes: 385644000 |Requested (qualifier value)| 63061008 |Measuring intake and output (procedure)| 50811001 |Routine (qualifier value)|) |
| | ✪ Strict per local policy |
| | actionSentence[type=elm:Instance, classType=anf:ClinicalStatement] |
| | "topic:Precoordinated Expression unstructured[0]: strict per local policy" |
| | (Codes: 63061008 |Measuring intake and output (procedure)|) |

| | Logical ▷ ✪ | |
| --- | --- | --- |
| | | ◉ prompt: Intake/Output Recording Frequency |
| | | response: Real (Single) |
| | | **responseBinding:** Property ("intakeOutputRecordingFrequency") |

◉ Intake/Output Recording Frequency in Hours

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Precoordinated Expression , repetition.eventFrequency.lowerBound: intakeOutputRecordingFrequency , repetition.eventFrequency.upperBound: intakeOutputRecordingFrequency , repetition.eventFrequency.includeLowerBound: TRUE , repetition.eventFrequency.includeUpperBound: TRUE , repetition.eventFrequency.measureSemantic: intakeOutputRecordingFrequency"

(Codes: 385644000 |Requested (qualifier value)| 63061008 |Measuring intake and output (procedure)|)

**Condition:**elm:IsTrue ( elm:Property("admitToICU" from: elm:ParameterRef (Responses) ) )

If admitted to ICU, then display the ICU section.

☐ Oxygen saturation continuous

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Precoordinated Expression , repetition.periodDuration.lowerBound: 1 , repetition.periodDuration.includeLowerBound: TRUE , repetition.periodDuration.includeUpperBound: FALSE , repetition.periodDuration.resolution: 1 , repetition.periodDuration.measureSemantic:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| 104847001 |Oxygen saturation measurement (procedure)| 258701004 |min (qualifier value)|)

☐ Intake and output

✪ Routine

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Precoordinated Expression , priority:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| 63061008 |Measuring intake and output (procedure)| 50811001 |Routine (qualifier value)|)

✪ Strict

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| 44ee63fe-94f-b-4cf1-97d7-a2e73075596f |Measuring intake and output, strict (procedure))

✪ Every 1 hour

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Precoordinated Expression , repetition.eventFrequency.lowerBound: 1 , repetition.eventFrequency.includeLowerBound: TRUE , repetition.eventFrequency.includeUpperBound: TRUE , repetition.eventFrequency.measureSemantic: 1 , repetition.eventFrequency.measureSemantic:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| 63061008 |Measuring intake and output (procedure)| 258702006 |hour (qualifier value)|)

☐ Invasive hemodynamic monitoring

Represented Concepts: 386341005 |Invasive hemodynamic monitoring (regime/therapy)|

☐ Arterial line

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| 392247006 |Insertion of catheter into artery (procedure)|)

☐ Pulmonary artery catheter

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| 82936005 |Introduction of catheter into pulmonary artery (procedure)|)

# Chapter 6. Activity

☐ Bed rest

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| 225316001 |Bedrest (regime/therapy)|)

☐ Bed rest with bedside commode

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| 1d5d8220-9818-4c10-a471-3b9ad32d061e |Bedrest with bedside commode (regime/therapy))

☐ Bed rest with bathroom privileges

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| 424410003 |Bedrest with bathroom privileges (regime/therapy)|)

Logical ▷ ☐

◎ prompt: Frequency

response: String (Single)

**responseBinding:** Property ("ambulateWithAssistanceFrequency")

◎ Ambulate with assistance with user provided frequency

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Precoordinated Expression , repetition.eventFrequency.lowerBound: ambulateWithAssistanceFrequency , repetition.eventFrequency.upperBound: ambulateWithAssistanceFrequency , repetition.eventFrequency.includeLowerBound: TRUE , repetition.eventFrequency.includeUpperBound: TRUE , repetition.eventSeparation.resolution: ambulateWithAssistanceFrequency"

(Codes: 385644000 |Requested (qualifier value)| b43fa6a5-94a3-4098-8514-b4b5da9b899d |Ambulating with assistance (regime/therapy))

☐ Occupational/physical therapy assessment/assistance

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| 410155007 |Occupational therapy assessment (procedure)|)

Logical ▷ ☐

◎ prompt: Frequency

response: String (Single)

| | |
|---|---|
| | **responseBinding:** Property ("outOfBedToChairFrequency") |
| | ◎ Out of bed to chair with user provided Frequency |
| | actionSentence[type=elm:Instance, classType=anf:ClinicalStatement] |
| | "statementType:Precoordinated Expression topic:Precoordinated Expression , repetition.eventFrequency.lowerBound: outOfBedToChairFrequency , repetition.eventFrequency.upperBound: outOfBedToChairFrequency , repetition.eventFrequency.includeLowerBound: TRUE , repetition.eventFrequency.includeUpperBound: TRUE" |
| | (Codes: 385644000 |Requested (qualifier value)| 445970000 |Moving subject from bed to chair (procedure)|) |
| Logical ▷ □ | |

| | |
|---|---|
| ◎ prompt: | Activity |
| response: | String (Single) |
| **responseBinding:** | Property ("userSpecifiedOtherActivity") |

◎ User Specified Other activity

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic: userSpecifiedOtherActivity"

(Codes: 385644000 |Requested (qualifier value)|)

Logical ▷ □

| | |
|---|---|
| ◎ prompt: | Reason |
| response: | Code (Single) |
| response range: | EnumerationConstraint (List) |
| item: | May be off telemetry for lab testing([223438000 |Recommendation to discontinue a procedure (procedure)] ->(363702006 |Has focus (attribute))->[15220000 |Laboratory test (procedure)]) |
| item: | May be off telemetry for imaging studies([223438000 | Recommendation to discontinue a procedure (procedure)] ->(363702006 |Has focus (attribute))->[422952004 |Cardiac telemetry (regime/therapy)]) |
| item: | May be off telemetry for imaging studies([223438000 | Recommendation to discontinue a procedure (procedure)] ->(363702006 |Has focus (attribute))->[363679005 |Imaging (procedure)]) |
| **responseBinding:** | Property ("offTelemetryReason") |

◎ May be off telemetry for Reason

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic: offTelemetryReason"

(Codes: 385644000 |Requested (qualifier value)|)

# Chapter 7. Nursing

| Urinary Catheter | | |
|---|---|---|
| Visual ➤ ☐ | | |
| | | ☐ Insert Foley (indwelling urinary) catheter (note: routine urinary catheterization not recommended unless benefits outweigh risks) |
| | | actionSentence[type=elm:Instance, classType=anf:ClinicalStatement] |
| | | "statementType:Precoordinated Expression topic:Precoordinated Expression" |
| | | (Codes: 385644000 \|Requested (qualifier value)\| 446583004 \|Insertion of indwelling catheter into urinary bladder (procedure)\|) |
| | ☐ | |
| | | ☐ Discontinue urinary catheter after 48hrs (reorder for continued use) |
| | | actionSentence[type=elm:Instance, classType=anf:ClinicalStatement] |
| | | "statementType:Precoordinated Expression topic:Precoordinated Expression , unstructured[0]: reorder for continued use , repetition.periodDuration.lowerBound: 0 , repetition.periodDuration.upperBound: 48 , repetition.periodDuration.includeUpperBound: FALSE , repetition.periodDuration.includeUpperBound: TRUE , repetition.periodDuration.resolution: 1 , repetition.periodDuration.measureSemantic:Precoordinated Expression" |
| | | (Codes: 385644000 \|Requested (qualifier value)\| 446583004 \|Insertion of indwelling catheter into urinary bladder (procedure)\| 258702006 \|hour (qualifier value)\|) |

☐ Condum catheter

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| 46a4b669-f7e6-4aa7-8ad8-7ff5c1f-bce83 |Catheterization of urinary blader using condom catheter (procedure))

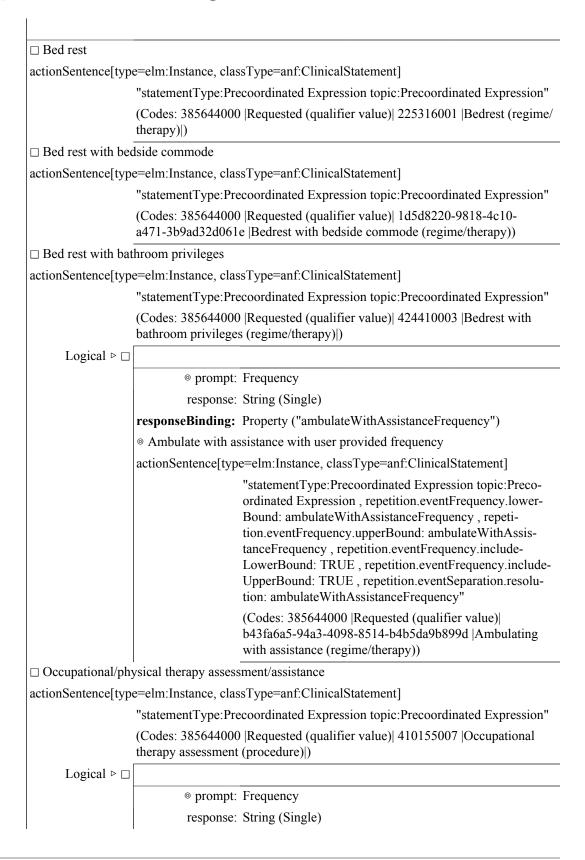| Peripheral Intravenous (IV) Line | |
|---|---|
| ☐ | Insert peripheral IV line |
| | ✪ Saline lock |
| | actionSentence[type=elm:Instance, classType=anf:ClinicalStatement] |
| | "statementType:Precoordinated Expression topic:Precoordinated Expression" |
| | (Codes: 385644000 \|Requested (qualifier value)\| 6b343927-35d-f-458e-b365-69fd00ba12e6 \|Insertion of peripheral venous cannula with saline lock (procedure)) |
| | ✪ Heparin lock |
| | actionSentence[type=elm:Instance, classType=anf:ClinicalStatement] |
| | "statementType:Precoordinated Expression topic:Precoordinated Expression" |

| | (Codes: 385644000 |Requested (qualifier value)| 491e8c86-91e0-49a7-a4a3-dd1da05ad071 |Insertion of peripheral venous cannula with heparin lock (procedure)) |

☐ Routine IV Care per local policy

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Precoordinated Expression , unstructured[0]: per local policy"

(Codes: 385644000 |Requested (qualifier value)| 423687009 |Peripheral intravenous catheter care (regime/therapy)|)

Fluid Restriction

| Logical ▷ ☐ | |
| --- | --- |
| | ◉ prompt:  Maximum liters per 24 hours |
| | response:  Integer (Single) |
| | **responseBinding:**  Property ("maximumLitersPerDay") |
| | ◉ Restrict Fluids |
| | actionSentence[type=elm:Instance, classType=anf:ClinicalStatement] |
| | "statementType:Precoordinated Expression topic:Precoordinated Expression , requestedResult.lowerBound: maximumLitersPerDay , requestedResult.upperBound: maximumLitersPerDay , requestedResult.includeLowerBound: TRUE , requestedResult.includeUpperBound: TRUE , requestedResult.resolution: 1 , requestedResult.measureSemantic:Precoordinated Expression" |
| | (Codes: 385644000 |Requested (qualifier value)| 25389001 |Fluid restriction (procedure)| 258858008 |Liter/24 hours (qualifier value)|) |

Diet

☀ Regular

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Regular"

(Codes: 385644000 |Requested (qualifier value)| 400c3d0a-171f-4b6f-83f8-638e72a22068 |Regular diet (regime/therapy))

☀ Nil per os (NPO)

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| 182923009 |Nil by mouth (regime/therapy)|)

| ☀ | Cardiac diet |
| --- | --- |
| | ☐ Low sodium |
| | actionSentence[type=elm:Instance, classType=anf:ClinicalStatement] |
| | "statementType:Precoordinated Expression topic:Precoordinated Expression" |
| | (Codes: 385644000 |Requested (qualifier value)| 437421000124105 | Decreased sodium diet (regime/therapy)|) |
| | ☐ Low cholesterol |

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| 436711000124106 | Decreased cholesterol diet (regime/therapy)|)

☐ Low fat

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| 436861000124104 | Decreased fat diet (regime/therapy)|)

☀ 2gm Na

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:2gm Na"

(Codes: 385644000 |Requested (qualifier value)| fcb801a9-8501-4343-a466-ace348383326 |Cardiac semi-soft 2 gram sodium diet (regime/therapy))

☀ No added salt

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| d37a9b17-bcb1-48a2-ab42-6b952d49404f |No salt added diet (regime/therapy))

Logical ▷ ☀

◎ prompt: Calories

response: Integer (Single)

**responseBinding:** Property ("userProvidedCaloriesValue")

◎ Calories

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Precoordinated Expression , requestedResult.lowerBound: maximumLitersPerDay , requestedResult.lowerBound: userProvidedCaloriesValue , requestedResult.upperBound: userProvidedCaloriesValue , requestedResult.includeLowerBound: TRUE , requestedResult.includeUpperBound: TRUE , requestedResult.resolution: 1 , requestedResult.measureSemantic:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| a6894e46-3838-430b-b163-99fc45eada51 |Diabetic diet (regime/therapy) 258790008 |calorie (qualifier value)|)

Logical ▷ ☀

◎ prompt: Diet

response: Tuple (Multiple)

response range: EnumerationConstraint (List)

item: tube feeding(61420007 |Tube feeding of patient (regime/therapy)|)

item: Total Parenteral Nutrition (TPN)(225372007 |Total parenteral nutrition (regime/therapy)|)

☞ item: Other diet

◎ Other Diet

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| TSR-NoCode)

# Chapter 8. Venous Thromboembolism (VTE) Prophylaxis

☐ Conduct VTE prophylaxis risk screening

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

> "statementType:Precoordinated Expression topic:Precoordinated Expression"

> (Codes: 385644000 |Requested (qualifier value)| 443749004 |Assessment of risk of venous thromboembolism (procedure)|)

☐ Order appropriate VTE protocol

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

> "statementType:Precoordinated Expression topic:Precoordinated Expression"

> (Codes: 385644000 |Requested (qualifier value)| 439993001 |Prevention of deep vein thrombosis (regime/therapy)|)

Notify Clinician for:

Logical ▷ ☐

> ◎ Temperature in Degrees Celsius
>
> > prompt: Temperature
> >
> > response: Real (Single)
>
> **responseBinding:** Property ("temperatureMeasurement")
>
> ◎ High Temperature Notification Limit
>
> > prompt: High Temperature Notification Limit in Degrees Celsius
> >
> > response: Real (Single)
>
> **responseBinding:** Property ("highTemperatureLimit")
>
> **initalValue:** elm:Literal (Real) 38.5
>
> **Condition:** elm:Greater ( elm:Property("temperatureMeasurement" from: elm:ParameterRef (Responses) ) elm:Property("highTemperatureLimit" from: elm:ParameterRef (Responses) ) )
>
> ◎ Temperature greater than high temperature notification limit
>
> actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]
>
> > "statementType:Precoordinated Expression topic:Precoordinated Expression"
> >
> > (Codes: 385644000 |Requested (qualifier value)| TSR-NoCode)

Logical ▷ ☐

> ◎ Systolic Blood Pressure
>
> > prompt: Systolic Blood Pressure
> >
> > response: Integer (Single)

**responseBinding:** Property ("systolicBloodPressure")

◎ High Systolic Blood Pressure Notification Limit [default: 170 mmHg]

        prompt: High Systolic Blood Pressure Notification Limit
in mmHg

        response: Integer (Single)

**responseBinding:** Property ("highSystolicBloodPressureLimit")

**initalValue:** elm:Literal (Real) 170

**Condition:**elm:Greater ( elm:Property("systolicBloodPressure" from:
elm:ParameterRef (Responses) ) elm:Property("highSystolicBloodPres-
sureLimit" from: elm:ParameterRef (Responses) ) )

◎ Systolic blood pressure (BP) measurement is greater than high notifi-
cation limit

actionSentence[type=elm:Instance, classType=anf:ClinicalState-
ment-Notification]

        "statementType:Precoordinated Expression top-
ic:Precoordinated Expression"

        (Codes: 385644000 |Requested (qualifier val-
ue)| TSR-NoCode)

Logical ▷ □

◎ Systolic Blood Pressure

        prompt: Systolic Blood Pressure

        response: Integer (Single)

◎ Low Systolic Blood Pressure Notification Limit [default: 90 mmHg]

        prompt: Low Systolic Blood Pressure Notification Limit
in mmHg

        response: Integer (Single)

**responseBinding:** Property ("lowSystolicBloodPressureLimit")

**initalValue:** elm:Literal (Real) 90

**Condition:**elm:Less ( elm:Property("systolicBloodPressure" from:
elm:ParameterRef (Responses) ) elm:Property("lowSystolicBloodPres-
sureLimit" from: elm:ParameterRef (Responses) ) )

◎ Systolic blood pressure (BP) measurement is lower than low notifica-
tion limit

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

        "statementType:Precoordinated Expression top-
ic:Precoordinated Expresssion"

        (Codes: 385644000 |Requested (qualifier val-
ue)| TSR-NoCode)

Logical ▷ □

◎ Diastolic Blood Pressure

        prompt: Diastolic Blood Pressure

        response: Integer (Single)

**responseBinding:** Property ("diastolicBloodPressure")

◎ High Diastolic Blood Pressure Notification Limit [default: 110 mmHg]

> prompt: High Diastolic Blood Pressure Notification Limit in mmHg

> response: Integer (Single)

**responseBinding:** Property ("highDiastolicBloodPressureLimit")

**initalValue:** elm:Literal (Real) 110

**Condition:**elm:Greater ( elm:Property("diastolicBloodPressure" from: elm:ParameterRef (Responses) ) elm:Property("highDiastolicBloodPressureLimit" from: elm:ParameterRef (Responses) ) )

◎ Diastolic blood pressure (BP) is greater than high notification limit

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

> "statementType:Precoordinated Expression topic:Precoordinated Expression"

> (Codes: 385644000 |Requested (qualifier value)| TSR-NoCode)

Logical ▷ □

◎ Diastolic Blood Pressure

> prompt: Diastolic Blood Pressure

> response: Integer (Single)

◎ Low Diastolic Blood Pressure Notification Limit [default: 40 mmHg]

> prompt: Low Diastolic Blood Pressure Notification Limit in mmHg

> response: Integer (Single)

**responseBinding:** Property ("lowDiastolicBloodPressureLimit")

**initalValue:** elm:Literal (Real) 40

**Condition:**elm:Less ( elm:Property("diastolicBloodPressure" from: elm:ParameterRef (Responses) ) elm:Property("lowDiastolicBloodPressureLimit" from: elm:ParameterRef (Responses) ) )

◎ Diastolic blood pressure (BP) measurement is lower than low notification limit

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

> "topic:Precoordinated Expresssion"

> (Codes: TSR-NoCode)

Logical ▷ □

◎ Heart Rate

> prompt: Heart rate

> response: Integer (Single)

**responseBinding:** Property ("heartRate")

◎ High Heart Rate Notification Limit [default: 130 bpm]

> prompt: High Heart Rate Notification Limit in bpm

> response: Integer (Single)

|  |  |  |
|---|---|---|
| | | **responseBinding:** Property ("highHeartRateLimit") |
| | | **initalValue:** elm:Literal (Real) 130 |
| | | **Condition:**elm:Greater ( elm:Property("heartRate" from: elm:Parameter-terRef (Responses) ) elm:Property("highHeartRateLimit" from: elm:Pa-rameterRef (Responses) ) ) |
| | | ◎ Heart Rate is greater than high notification limit |
| | | actionSentence[type=elm:Instance, classType=anf:ClinicalStatement] |
| | | "topic:Precoordinated Expresssion" |
| | | (Codes: TSR-NoCode) |
| Logical ▷ □ | | |
| | | ◎ Heart Rate |
| | | prompt: Heart rate |
| | | response: Integer (Single) |
| | | ◎ Low Heart Rate Notification Limit [default: 50 bpm] |
| | | prompt: Low Heart Rate Notification Limit in bpm |
| | | response: Integer (Single) |
| | | **responseBinding:** Property ("lowHeartRateLimit") |
| | | **initalValue:** elm:Literal (Real) 50 |
| | | **Condition:**elm:Less ( elm:Property("heartRate" from: elm:Parameter-Ref (Responses) ) elm:Property("lowHeartRateLimit" from: elm:Para-meterRef (Responses) ) ) |
| | | ◎ Heart Rate is less than high notification limit |
| | | actionSentence[type=elm:Instance, classType=anf:ClinicalStatement] |
| | | "topic:Precoordinated Expresssion" |
| | | (Codes: TSR-NoCode) |
| Logical ▷ □ | | |
| | | ◎ Respiratory Rate |
| | | prompt: Respiratory rate |
| | | response: Integer (Single) |
| | | **responseBinding:** Property ("respiratoryRate") |
| | | ◎ High Respiratory Rate Notification Limit [default: 24 breaths per minute] |
| | | prompt: High Respiratory Rate Notification Limit in breaths per minute |
| | | response: Integer (Single) |
| | | **responseBinding:** Property ("highRespiratoryRateLimit") |
| | | **initalValue:** elm:Literal (Real) 24 |
| | | **Condition:**elm:Greater ( elm:Property("respiratoryRate" from: elm:Pa-rameterRef (Responses) ) elm:Property("highRespiratoryRateLimit" from: elm:ParameterRef (Responses) ) ) |
| | | ◎ Respiratory Rate is greater than high notification limit |
| | | actionSentence[type=elm:Instance, classType=anf:ClinicalStatement] |

| | |
|---|---|
| | "topic:Precoordinated Expession" |
| | (Codes: TSR-NoCode) |
| Logical ▷ □ | |

◎ Respiratory Rate

    prompt: Respiratory rate

    response: Integer (Single)

◎ Low Respiratory Rate Notification Limit [default: 10 breaths per minute]

    prompt: Low Respiratory Rate Notification Limit in breaths per minute

    response: Integer (Single)

**responseBinding:** Property ("lowRespiratoryRateLimit")

**initalValue:** elm:Literal (Real) 10

**Condition:** elm:Less ( elm:Property("respiratoryRate" from: elm:ParameterRef (Responses) ) elm:Property("lowRespiratoryRateLimit" from: elm:ParameterRef (Responses) ) )

◎ Respiratory Rate is greater than high notification limit

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

    "topic:Precoordinated Expression"

    (Codes: TSR-NoCode)

| | |
|---|---|
| Logical ▷ □ | |

◎ Respiratory Rate

    prompt: Urine Output

    response: Integer (Single)

**responseBinding:** Property ("urineOutputLimit")

◎ Low Urine Output Notification Limit [default: 0.5 mL/kg/hr]

    prompt: Low Urine Output Notification Limit in mL/kg/hr

    response: Integer (Single)

**responseBinding:** Property ("lowUrineOutputLimit")

**initalValue:** elm:Literal (Real) 0.5

**Condition:** elm:Less ( elm:Property("urineOutputLimit" from: elm:ParameterRef (Responses) ) elm:Property("lowUrineOutputLimit" from: elm:ParameterRef (Responses) ) )

◎ Urine Output is less than low notification limit

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

    "topic:Precoordinated Expression"

    (Codes: TSR-NoCode)

# Chapter 9. Immunizations

☐ Pneumovax

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Postcoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| [416118004 |Administration (procedure)] ->(260686004 |Method (attribute))->[129445006 |Administration - action (qualifier value)] ->(363701004 |Direct substance (attribute))->[398730001 |Pneumococcal vaccine (substance)]])

☐ Influenza vaccine

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Postcoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| [416118004 |Administration (procedure)] ->(260686004 |Method (attribute))->[129445006 |Administration - action (qualifier value)] ->(363701004 |Direct substance (attribute))->[46233009 |Influenza virus vaccine (product)]])

# Chapter 10. Laboratory Tests

☐ Basic metabolic profile now

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Precoordinated Expression , priority:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| 1421000205106 |Basic metabolic panel (procedure) 49499008 |Stat (qualifier value)|)

☐ Basic metabolic profile daily

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Precoordinated Expression , repetition.periodDuration.lowerBound: 1 , repetition.periodDuration.includeLowerBound: TRUE , repetition.periodDuration.includeUpperBound: FALSE , repetition.periodDuration.resolution: 1 , repetition.periodDuration.measureSemantic:Precoordinated Expression , repetition.periodDuration.lowerBound: 1 , repetition.periodDuration.upperBound: 1 , repetition.periodDuration.includeLowerBound: TRUE , repetition.periodDuration.includeUpperBound: TRUE , repetition.periodDuration.resolution: 1 , repetition.periodDuration.measureSemantic:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| 1421000205106 |Basic metabolic panel (procedure) 258702006 |hour (qualifier value)| 73775008 |Morning (qualifier value)|)

☐ Complete metabolic panel now

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Precoordinated Expression , priority:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| 1411000205104 |Comprehensive metabolic panel (procedure) 49499008 |Stat (qualifier value)|)

☐ Complete metabolic panel in AM

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Precoordinated Expression , priority:Precoordinated Expression , repetition.periodDuration.lowerBound: 1 , repetition.periodDuration.upperBound: 1 , repetition.periodDuration.includeLowerBound: TRUE , repetition.periodDuration.includeUpperBound: TRUE , repetition.periodDuration.resolution: 1 , repetition.periodDuration.measureSemantic:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| 1411000205104 |Comprehensive metabolic panel (procedure) 49499008 |Stat (qualifier value)| 73775008 |Morning (qualifier value)|)

☐ Brain natriuretic peptide now

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Precoordinated Expression , priority:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| 390917008 |Brain natriuretic peptide measurement (procedure)| 49499008 |Stat (qualifier value)|)

☐ Brain natriuretic peptide in AM

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Precoordinated Expression , repetition.eventFrequency.lowerBound: 1 , repetition.eventFrequency.upperBound: 1 , repetition.eventFrequency.includeLowerBound: TRUE , repetition.eventFrequency.includeUpperBound: TRUE , repeti-

tion.eventFrequency.upperBound: 1 , repetition.eventFrequency.measureSemantic:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| 390917008 |Brain natriuretic peptide measurement (procedure)| 73775008 |Morning (qualifier value)|)

☐ Complete blood count now

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Precoordinated Expression , priority:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| 26604007 |Complete blood count (procedure)| 49499008 |Stat (qualifier value)|)

☐ Complete blood count in AM

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Precoordinated Expression , repetition.eventFrequency.lowerBound: 1 , repetition.eventFrequency.upperBound: 1 , repetition.eventFrequency.includeLowerBound: TRUE , repetition.eventFrequency.includeUpperBound: TRUE , repetition.eventFrequency.upperBound: 1 , repetition.eventFrequency.measureSemantic:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| 26604007 |Complete blood count (procedure)| 73775008 |Morning (qualifier value)|)

☐ Fasting lipid profile in AM

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Precoordinated Expression , repetition.eventFrequency.lowerBound: 1 , repetition.eventFrequency.upperBound: 1 , repetition.eventFrequency.includeLowerBound: TRUE , repetition.eventFrequency.includeUpperBound: TRUE , repetition.eventFrequency.upperBound: 1 , repetition.eventFrequency.measureSemantic:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| 252150008 |Fasting lipid profile (procedure)| 73775008 |Morning (qualifier value)|)

☐ Partial Thromboplastin Time (PTT) now

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Precoordinated Expression , priority:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| 42525009 |Partial thromboplastin time, activated (procedure)| 49499008 |Stat (qualifier value)|)

☐ Partial Thromboplastin Time (PTT) in AM

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Precoordinated Expression , repetition.eventFrequency.lowerBound: 1 , repetition.eventFrequency.upperBound: 1 , repetition.eventFrequency.includeLowerBound: TRUE , repetition.eventFrequency.includeUpperBound: TRUE , repetition.eventFrequency.upperBound: 1 , repetition.eventFrequency.measureSemantic:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| 42525009 |Partial thromboplastin time, activated (procedure)| 73775008 |Morning (qualifier value)|)

☐ Prothrombin Time (PT)/International Normalized Ratio (INR) now

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Precoordinated Expression , priority:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| 396451008 |Prothrombin time (procedure)| 49499008 |Stat (qualifier value)|)

☐ Prothrombin Time (PT)/International Normalized Ratio (INR) daily

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Precoordinated Expression , repetition.eventFrequency.lowerBound: 1 , repetition.eventFrequency.includeLowerBound: TRUE , repetition.eventFrequency.includeUpperBound: FALSE , repetition.eventFrequency.upperBound: 1 , repetition.eventFrequency.measureSemantic:Precoordinated Expression , repetition.periodDuration.lowerBound: 1 , repetition.periodDuration.upperBound: 1 , repetition.periodDuration.includeLowerBound: TRUE , repetition.periodDuration.includeUpperBound: TRUE , repetition.periodDuration.resolution: 1 , repetition.periodDuration.measureSemantic:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| 396451008 |Prothrombin time (procedure)| 258703001 |day (qualifier value)| 73775008 |Morning (qualifier value)|)

☐ Liver function testing daily

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"topic:Precoordinated Expression repetition.eventFrequency.lowerBound: 1 , repetition.eventFrequency.includeLowerBound: TRUE , repetition.eventFrequency.includeUpperBound: FALSE , repetition.eventFrequency.upperBound: 1 , repetition.eventFrequency.measureSemantic:Precoordinated Expression , repetition.periodDuration.lowerBound: 1 , repetition.periodDuration.upperBound: 1 , repetition.periodDuration.includeLowerBound: TRUE , repetition.periodDuration.includeUpperBound: TRUE , repetition.periodDuration.resolution: 1 , repetition.periodDuration.measureSemantic:Precoordinated Expression"

(Codes: 26958001 |Hepatic function panel (procedure)| 258703001 |day (qualifier value)| 73775008 |Morning (qualifier value)|)

☐ Thyroid Stimulating Hormone (TSH) now

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Precoordinated Expression , priority:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| 61167004 |Thyroid stimulating hormone measurement (procedure)| 49499008 |Stat (qualifier value)|)

☐ Thyroid Stimulating Hormone (TSH) in AM

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Precoordinated Expression , repetition.periodDuration.lowerBound: 1 , repetition.periodDuration.upperBound: 1 , repetition.periodDuration.includeLowerBound: TRUE , repetition.periodDuration.includeUpperBound: TRUE , repetition.periodDuration.resolution: 1 , repetition.periodDuration.measureSemantic:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| 61167004 |Thyroid stimulating hormone measurement (procedure)| 73775008 |Morning (qualifier value)|)

☐ Troponin I

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Precoordinated Expression , priority:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| 121870001 |Troponin I measurement (procedure)| 49499008 |Stat (qualifier value)|)

☐ Troponin I q 8 hours x 3

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Precoordinated Expression , repetition.eventFrequency.lowerBound: 8 , repetition.eventFrequency.upperBound: 8 , repetition.eventFrequency.includeLowerBound: TRUE , repetition.eventFrequency.includeUpperBound: TRUE , repetition.eventFrequency.measureSemantic:Precoordinated Expression , repetition.eventDuration.lowerBound: 24 , repetition.eventDuration.upperBound: 24 , repetition.eventDuration.includeLowerBound: TRUE , repetition.eventDuration.includeUpperBound: TRUE , repetition.eventDuration.measureSemantic:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| 121870001 |Troponin I measurement (procedure)| 258702006 |hour (qualifier value)| 258702006 |hour (qualifier value)|)

☐ Magnesium now

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Precoordinated Expression , priority:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| 38151008 |Magnesium measurement (procedure)| 49499008 |Stat (qualifier value)|)

☐ Magnesium in AM

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Precoordinated Expression , repetition.eventFrequency.lowerBound: 1 , repetition.eventFrequency.upperBound: 1 , repetition.eventFrequency.includeLowerBound: TRUE , repetition.eventFrequency.includeUpperBound: TRUE , repetition.eventFrequency.resolution: 1 , repetition.eventFrequency.measureSemantic:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| 38151008 |Magnesium measurement (procedure)| 73775008 |Morning (qualifier value)|)

☐ Digoxin level now

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Precoordinated Expression , priority:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| 25514001 |Digoxin measurement (procedure)| 49499008 |Stat (qualifier value)|)

☐ Digoxin level in AM urinalysis

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Precoordinated Expression , repetition.eventFrequency.lowerBound: 1 , repetition.eventFrequency.upperBound: 1 , repetition.eventFrequency.includeLowerBound: TRUE , repetition.eventFrequency.includeUpperBound: TRUE , repetition.eventFrequency.resolution: 1 , repetition.eventFrequency.measureSemantic:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| 7ab0a3e5-ea2d-45c4-916a-6e03a4771b93 | Urine digoxin measurement (procedure) 73775008 |Morning (qualifier value)|)

☐ Arterial Blood Gas now

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Precoordinated Expression , priority:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| 91308007 |Blood gases, arterial measurement (procedure)| 49499008 |Stat (qualifier value)|)

☐ Point of Care Tests

☐ Blood glucose every 4 hours

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Blood glucose , repetition.eventFrequency.lowerBound: 4 , repetition.eventFrequency.includeLowerBound: TRUE , repetition.eventFrequency.includeUpperBound: FALSE , repetition.eventFrequency.measureSemantic:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| 33747003 |Glucose measurement, blood (procedure)| 258702006 |hour (qualifier value)|)

☐ Blood glucose now

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Precoordinated Expression , priority:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| 33747003 |Glucose measurement, blood (procedure)| 49499008 |Stat (qualifier value)|)

# Chapter 11. Diagnostic Testing

□ 12-lead electrocardiogram (Dx: heart failure) now

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

> "statementType:Precoordinated Expression topic:Precoordinated Expression , priority:Precoordinated Expression , purpose[0]:Postcoordinated Expression"

> (Codes: 385644000 |Requested (qualifier value)| 268400002 |12 lead electrocardiogram (procedure)| 49499008 |Stat (qualifier value)| [386053000 |Evaluation procedure (procedure)] ->(363702006 |Has focus (attribute))->[84114007 |Heart failure (disorder)]])

□ 12-lead electrocardiogram (Dx: heart failure) in AM

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

> "statementType:Precoordinated Expression topic:Precoordinated Expression , purpose[0]:Postcoordinated Expression , repetition.eventFrequency.lowerBound: 1 , repetition.eventFrequency.upperBound: 1 , repetition.eventFrequency.includeLowerBound: TRUE , repetition.eventFrequency.includeUpperBound: TRUE , repetition.eventFrequency.resolution: 1 , repetition.eventFrequency.measureSemantic:Precoordinated Expression"

> (Codes: 385644000 |Requested (qualifier value)| 268400002 |12 lead electrocardiogram (procedure)| [386053000 |Evaluation procedure (procedure)] ->(363702006 |Has focus (attribute))->[84114007 |Heart failure (disorder)] 73775008 |Morning (qualifier value)|)

| Logical ▷ □ | X-ray chest (Dx: heart failure) |
|---|---|
| | □ Posterioranterior (PA)/Lateral now |
| | actionSentence[type=elm:Instance, classType=anf:ClinicalStatement] |
| | "statementType:Precoordinated Expression topic:Precoordinated Expression , purpose[0]:Postcoordinated Expression , priority:Precoordinated Expression" |
| | (Codes: 385644000 |Requested (qualifier value)| 42869005 |Diagnostic radiography of chest, combined posteroanterior and lateral (procedure)| [386053000 |Evaluation procedure (procedure)] ->(363702006 |Has focus (attribute))->[84114007 |Heart failure (disorder)] 49499008 |Stat (qualifier value)|) |
| | □ Posterioranterior (PA)/Lateral in AM |
| | actionSentence[type=elm:Instance, classType=anf:ClinicalStatement] |
| | "statementType:Precoordinated Expression topic:Precoordinated Expression , purpose[0]:Postcoordinated Expression , repetition.eventFrequency.lowerBound: 1 , repetition.eventFrequency.upperBound: 1 , repetition.eventFrequency.includeLowerBound: TRUE , repetition.eventFrequency.includeUpperBound: TRUE , repetition.eventFrequency.resolution: 1 , repetition.eventFrequency.measureSemantic:Precoordinated Expression" |
| | (Codes: 385644000 |Requested (qualifier value)| 42869005 |Diagnostic radiography of chest, combined posteroanterior and lateral (procedure)| [386053000 |Evaluation procedure (procedure)] ->(363702006 |Has focus (attribute))->[84114007 |Heart failure (disorder)] 73775008 |Morning (qualifier value)|) |
| | □ Portable Anteroposterior (AP) now |
| | actionSentence[type=elm:Instance, classType=anf:ClinicalStatement] |

"topic:Postcoordinated Expression purpose[0]:Postcoordinated Expression , priority:Precoordinated Expression"

(Codes: [67632007 |Diagnostic radiography of chest, posteroanterior (procedure)]- ->(260686004 |Method (attribute))->[278110001 |Radiographic imaging - action (qualifier value)]- ->(405813007 |Procedure site - Direct (attribute))->[51185008 |Thoracic structure (body structure)] ->(424226004 |Using device (attribute))->[468611003 |Diagnostic x-ray system generator, portable (physical object)]; [386053000 |Evaluation procedure (procedure)] ->(363702006 |Has focus (attribute))->[84114007 |Heart failure (disorder)] 49499008 |Stat (qualifier value)|)

☐ Portable Anteroposterior (AP) in AM

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"topic:Postcoordinated Expression purpose[0]:Postcoordinated Expression , repetition.eventFrequency.lowerBound: 1 , repetition.eventFrequency.upperBound: 1 , repetition.eventFrequency.includeLowerBound: TRUE , repetition.eventFrequency.includeUpperBound: TRUE , repetition.eventFrequency.resolution: 1 , repetition.eventFrequency.measureSemantic:Precoordinated Expression"

(Codes: [67632007 |Diagnostic radiography of chest, posteroanterior (procedure)]- ->(260686004 |Method (attribute))->[278110001 |Radiographic imaging - action (qualifier value)]- ->(405813007 |Procedure site - Direct (attribute))->[51185008 |Thoracic structure (body structure)] ->(424226004 |Using device (attribute))->[468611003 |Diagnostic x-ray system generator, portable (physical object)]; [386053000 |Evaluation procedure (procedure)] ->(363702006 |Has focus (attribute))->[84114007 |Heart failure (disorder)] 73775008 |Morning (qualifier value)|)

☐ Echocardiogram, transthoracic (TTE) (Dx: Heart failure) now

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Precoordinated Expression , purpose[0]:Postcoordinated Expression , priority:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| 433236007 |Transthoracic echocardiography (procedure)| [386053000 |Evaluation procedure (procedure)] ->(363702006 |Has focus (attribute))->[84114007 |Heart failure (disorder)] 49499008 |Stat (qualifier value)|)

☐ Echocardiogram, transthoracic (TTE) (Dx: Heart failure) in AM

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Precoordinated Expression , purpose[0]:Postcoordinated Expression , repetition.eventFrequency.lowerBound: 1 , repetition.eventFrequency.upperBound: 1 , repetition.eventFrequency.includeLowerBound: TRUE , repetition.eventFrequency.includeUpperBound: TRUE , repetition.eventFrequency.resolution: 1 , repetition.eventFrequency.measureSemantic:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| 433236007 |Transthoracic echocardiography (procedure)| [386053000 |Evaluation procedure (procedure)] ->(363702006 |Has focus (attribute))->[84114007 |Heart failure (disorder)] 73775008 |Morning (qualifier value)|)

☐ Echocardiogram, transesophageal (TEE), (Dx: Heart failure) now

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Precoordinated Expression , priority:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| 105376000 |Transesophageal echocardiography (procedure)| 49499008 |Stat (qualifier value)|)

☐ Echocardiogram, transesophageal (TEE), (Dx: Heart failure) in AM

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Precoordinated Expression , repetition.eventFrequency.lowerBound: 1 , repetition.eventFrequency.upperBound: 1 , repetition.eventFrequency.includeLowerBound: TRUE , repetition.eventFrequency.includeUpperBound: TRUE , repetition.eventFrequency.resolution: 1 , repetition.eventFrequency.measureSemantic:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| 105376000 |Transesophageal echocardiography (procedure)| 73775008 |Morning (qualifier value)|)

☐ Thallium Myocardial Perfusion Imaging (MPI) viability testing

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Thallium Myocardial Perfusion Imaging (MPI) viability testing"

(Codes: 385644000 |Requested (qualifier value)| 431511008 |Myocardial perfusion stress imaging using Thallium 201 (procedure)|)

☐ MPI single-photon emission computed tomography (SPECT) for the etiology of cardiomyopathy

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Precoordinated Expression , purpose[0]:Postcoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| 16545381000119101 |Single photon emission computed tomography of myocardial perfusion with computed tomography (procedure)| [386053000 |Evaluation procedure (procedure)] ->(363702006 |Has focus (attribute))->[85898001 |Cardiomyopathy (disorder)])

☐ Cardiac magnetic resonance imaging (MRI) (with Gd delayed enhancement) for viability/etiology of cardiomyopathy

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Precoordinated Expression , purpose[0]:Postcoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| c8006fd5-76d8-4c36-aa0c-90e6ff79d787 |Magnetic resonance imaging of heart with delayed gadolinium contrast (procedure) [386053000 | Evaluation procedure (procedure)] ->(363702006 |Has focus (attribute))->[85898001 |Cardiomyopathy (disorder)])

☐ Multigated Acquisition Scan (MUGA) to define the Left Ventricular Ejection Fraction (LVEF) and/or Right Ventricular Ejection Fraction (RVEF)

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Precoordinated Expression , purpose[0]:Postcoordinated Expression , purpose[1]:Postcoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| 404221001 |Multiple gated acquisition scanning (procedure)| [386053000 |Evaluation procedure (procedure)] ->(363702006 |Has focus (attribute))->[250908004 |Left ventricular ejection fraction (observable entity)] [386053000 |Evaluation procedure (procedure)] ->(363702006 |Has focus (attribute))->[250939002 |Right ventricular ejection fraction (observable entity)])

# Chapter 12. Oxygen

☐ Oxygen therapy per protocol

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

> "statementType:Precoordinated Expression topic:Precoordinated Expression , unstructured[0]: per protocol"

> (Codes: 385644000 |Requested (qualifier value)| 57485005 |Oxygen therapy (procedure)|)

Sentence ▸ ☐

> ☐ prompt: Obtain Nasal cannula rate in L/min
> response: *Response Data Type Needed*

**responseBinding:** Property ("nasalCannulaRate")

**initalValue:** elm:Literal (String) 2 L/min

☐ User provided nasal cannula rate in L/min

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

> "statementType:Precoordinated Expression topic:Precoordinated Expresssion , repetition.periodDuration.lowerBound: nasalCannulaRate , repetition.periodDuration.upperBound: nasalCannulaRate , repetition.periodDuration.includeLowerBound: TRUE , repetition.periodDuration.includeUpperBound: TRUE , repetition.periodDuration.resolution: 1 , repetition.periodDuration.measureSemantic:Precoordinated Expression"

> (Codes: 385644000 |Requested (qualifier value)| 371907003 |Oxygen administration by nasal cannula (procedure)| 258994006 |Liter/minute (qualifier value)|)

☐ Titrate to oxygen saturation > 90%

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

> "statementType:Precoordinated Expression topic:Precoordinated Expression , requestedResult.lowerBound: 91 , requestedResult.upperBound: 100 , requestedResult.includeLowerBound: TRUE , requestedResult.includeUpperBound: TRUE , requestedResult.resolution: 1 , requestedResult.measureSemantic:Precoordinated Expression , repetition.periodDuration.lowerBound: nasalCannulaRate , repetition.periodDuration.upperBound: nasalCannulaRate , repetition.periodDuration.includeLowerBound: TRUE , repetition.periodDuration.includeUpperBound: TRUE , repetition.periodDuration.resolution: 1 , repetition.periodDuration.measureSemantic:Precoordinated Expression"

> (Codes: 385644000 |Requested (qualifier value)| 371907003 |Oxygen administration by nasal cannula (procedure)| 258858008 |Liter/24 hours (qualifier value)| 258752002 |% oxyhemoglobin (qualifier value)|)

☐ Face mask 40% fraction of inspired oxygen (FiO2) titrate to oxygen saturation > 90%

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

> "statementType:Precoordinated Expression topic:Precoordinated Expression , requestedResult.lowerBound: 91 , requestedResult.upperBound: 100 , requestedResult.includeLowerBound: TRUE , requestedResult.includeUpperBound: TRUE , requestedResult.resolution: 1 , requestedResult.measureSemantic:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| 371908008 |Oxygen administration by mask (procedure)| 258752002 |% oxyhemoglobin (qualifier value)|)

☐ Nonrebreather face mask 15 L titrate to oxygen saturation > 90%

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Precoordinated Expression , requestedResult.lowerBound: 91 , requestedResult.upperBound: 100 , requestedResult.includeLowerBound: TRUE , requestedResult.includeUpperBound: TRUE , requestedResult.resolution: 1 , requestedResult.measureSemantic:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| 429253002 |Oxygen administration by Venturi mask (procedure)| 258752002 |% oxyhemoglobin (qualifier value)|)

# Chapter 13. Consults and Referrals

☐ Consult cardiology

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

>"statementType:Precoordinated Expression topic:Precoordinated Expression"

>(Codes: 385644000 |Requested (qualifier value)| 1221000205105 |Cardiology consultation and report (procedure))

☐ Advanced heart failure service for heart failure management

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

>"statementType:Precoordinated Expression topic:Precoordinated Expression , unstructured[0]: for heart failure management"

>(Codes: 385644000 |Requested (qualifier value)| 1231000205107 |Advanced heart failure service consultation and report (procedure))

☐ Consult electrophysiology service for consideration of device therapy [(Implantable Cardioverter-Defibrillator (ICD), Cardiac Resynchronization Therapy (CRT)]

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

>"statementType:Precoordinated Expression topic:Precoordinated Expression , unstructured[0]: for consideration of device therapy [(Implantable Cardioverter- Defibrillator (ICD), Cardiac Resynchronization Therapy (CRT)]"

>(Codes: 385644000 |Requested (qualifier value)| 1241000205102 |Electrophysiology service consultation and report (procedure))

# Chapter 14. Medications

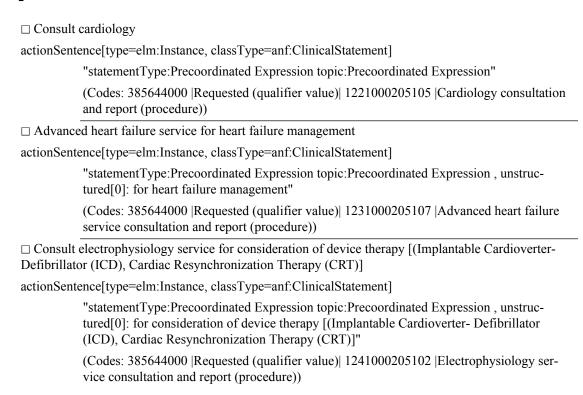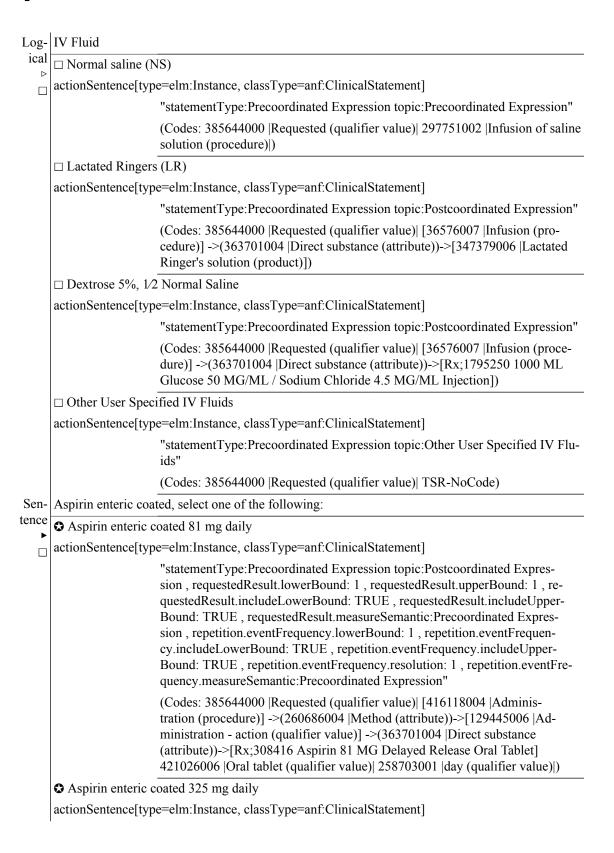| | |
|---|---|
| Log-ical ▷ □ | IV Fluid |
| | □ Normal saline (NS) |
| | actionSentence[type=elm:Instance, classType=anf:ClinicalStatement] |
| | "statementType:Precoordinated Expression topic:Precoordinated Expression" |
| | (Codes: 385644000 \|Requested (qualifier value)\| 297751002 \|Infusion of saline solution (procedure)\|) |
| | □ Lactated Ringers (LR) |
| | actionSentence[type=elm:Instance, classType=anf:ClinicalStatement] |
| | "statementType:Precoordinated Expression topic:Postcoordinated Expression" |
| | (Codes: 385644000 \|Requested (qualifier value)\| [36576007 \|Infusion (procedure)] ->(363701004 \|Direct substance (attribute))->[347379006 \|Lactated Ringer's solution (product)]) |
| | □ Dextrose 5%, 1⁄2 Normal Saline |
| | actionSentence[type=elm:Instance, classType=anf:ClinicalStatement] |
| | "statementType:Precoordinated Expression topic:Postcoordinated Expression" |
| | (Codes: 385644000 \|Requested (qualifier value)\| [36576007 \|Infusion (procedure)] ->(363701004 \|Direct substance (attribute))->[Rx;1795250 1000 ML Glucose 50 MG/ML / Sodium Chloride 4.5 MG/ML Injection]) |
| | □ Other User Specified IV Fluids |
| | actionSentence[type=elm:Instance, classType=anf:ClinicalStatement] |
| | "statementType:Precoordinated Expression topic:Other User Specified IV Fluids" |
| | (Codes: 385644000 \|Requested (qualifier value)\| TSR-NoCode) |
| Sen-tence ▶ □ | Aspirin enteric coated, select one of the following: |
| | ✪ Aspirin enteric coated 81 mg daily |
| | actionSentence[type=elm:Instance, classType=anf:ClinicalStatement] |
| | "statementType:Precoordinated Expression topic:Postcoordinated Expression , requestedResult.lowerBound: 1 , requestedResult.upperBound: 1 , requestedResult.includeLowerBound: TRUE , requestedResult.includeUpperBound: TRUE , requestedResult.measureSemantic:Precoordinated Expression , repetition.eventFrequency.lowerBound: 1 , repetition.eventFrequency.includeLowerBound: TRUE , repetition.eventFrequency.includeUpperBound: TRUE , repetition.eventFrequency.resolution: 1 , repetition.eventFrequency.measureSemantic:Precoordinated Expression" |
| | (Codes: 385644000 \|Requested (qualifier value)\| [416118004 \|Administration (procedure)] ->(260686004 \|Method (attribute))->[129445006 \|Administration - action (qualifier value)] ->(363701004 \|Direct substance (attribute))->[Rx;308416 Aspirin 81 MG Delayed Release Oral Tablet] 421026006 \|Oral tablet (qualifier value)\| 258703001 \|day (qualifier value)\|) |
| | ✪ Aspirin enteric coated 325 mg daily |
| | actionSentence[type=elm:Instance, classType=anf:ClinicalStatement] |

"statementType:Precoordinated Expression topic:Postcoordinated Expression , requestedResult.lowerBound: 1 , requestedResult.upperBound: 1 , requestedResult.includeLowerBound: TRUE , requestedResult.includeUpperBound: TRUE , requestedResult.measureSemantic:Precoordinated Expression , repetition.periodDuration.lowerBound: 1 , repetition.periodDuration.includeLowerBound: TRUE , repetition.periodDuration.includeUpperBound: TRUE , repetition.periodDuration.resolution: 1 , repetition.periodDuration.measureSemantic:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| [416118004 |Administration (procedure)] ->(260686004 |Method (attribute))->[129445006 |Administration - action (qualifier value)] ->(363701004 |Direct substance (attribute))->[Rx;198467 Aspirin 325 MG Delayed Release Oral Tablet] 421026006 |Oral tablet (qualifier value)| 258703001 |day (qualifier value)|)

## Diuretics

☐ prompt: Furosemide specify: 20-120 mg

response: Real (Single)

**responseBinding:** Property ("furosemideDose")

☐ prompt: Furosemide specify: every Y hours

response: Real (Single)

**responseBinding:** Property ("furosemideEveryYHours")

☐ Furosemide specify: 20-120 mg solution IV bolus now

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Postcoordinated Expression , priority:Precoordinated Expression , requestedResult.lowerBound: furosemideDose , requestedResult.upperBound: furosemideDose , requestedResult.includeLowerBound: TRUE , requestedResult.includeUpperBound: TRUE , requestedResult.measureSemantic:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| [416118004 |Administration (procedure)]- ->(260686004 |Method (attribute))->[129445006 |Administration - action (qualifier value)]- ->(363701004 |Direct substance (attribute))->[Rx;1162712 Furosemide Injectable Product] ->(410675002 |Route of administration (attribute))->[47625008 |Intravenous route (qualifier value)] ->(246501002 |Technique (attribute))->[397801003 |Single bolus (qualifier value)];- 49499008 |Stat (qualifier value)| 258684004 |milligram (qualifier value)|)

☐ Furosemide specify: 20-120 mg solution IV bolus every Y hours

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Postcoordinated Expression , requestedResult.lowerBound: furosemideDose , requestedResult.upperBound: furosemideDose , requestedResult.includeLowerBound: TRUE , requestedResult.includeUpperBound: TRUE , requestedResult.measureSemantic:Precoordinated Expression , repetition.eventFrequency.lowerBound: furosemideEveryYHours , repetition.eventFrequency.upperBound: furosemideEveryYHours , repetition.eventFrequency.includeLowerBound: TRUE , repetition.eventFrequency.includeUpperBound: TRUE , repetition.eventFrequency.resolution: 1 , repetition.eventFrequency.measureSemantic:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| [416118004 |Administration (procedure)]- ->(260686004 |Method (attribute))->[129445006 |Administration - action (qualifier value)]- ->(363701004 |Direct substance (attribute))->[Rx;1162712 Furosemide Injectable Product] ->(410675002 |Route of administration (attribute))->[47625008 |Intravenous route (qualifier value)] ->(246501002 |Technique (attribute))->[397801003 |Single bolus (qualifier value)];- 258684004 |milligram (qualifier value)| 258702006 |hour (qualifier value)|)

☐ prompt: Bumetanide specify: 0.5-2 mg

response: Real (Single)

**responseBinding:** Property ("bumetanideDose")

☐ prompt: Furosemide specify: every Y hours

response: Real (Single)

**responseBinding:** Property ("bumetanideEveryYHours")

☐ Bumetanide specify: 0.5-2 mg solution IV bolus now

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Postcoordinated Expression , priority:Precoordinated Expression , requestedResult.lowerBound: bumetanideDose , requestedResult.upperBound: bumetanideDose , requestedResult.includeLowerBound: TRUE , requestedResult.includeUpperBound: TRUE , requestedResult.measureSemantic:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| [416118004 |Administration (procedure)]- ->(260686004 |Method (attribute))->[129445006 |Administration - action (qualifier value)]- ->(363701004 |Direct substance (attribute))->[Rx;1151347 Bumetanide Injectable Product] ->(410675002 |Route of administration (attribute))->[47625008 |Intravenous route (qualifier value)]- ->(246501002 |Technique (attribute))->[397801003 |Single bolus (qualifier value)]; 49499008 |Stat (qualifier value)| 258684004 |milligram (qualifier value)|)

☐ Bumetanide specify: 0.5-2 mg solution IV bolus every Y hours

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Postcoordinated Expression , requestedResult.lowerBound: bumetanideDose , requestedResult.upperBound: bumetanideDose , requestedResult.includeLowerBound: TRUE , requestedResult.includeUpperBound: TRUE , requestedResult.measureSemantic:Precoordinated Expression , repetition.eventFrequency.lowerBound: bumetanideEveryYHours , repetition.eventFrequency.upperBound: bumetanideEveryYHours , repetition.eventFrequency.includeLowerBound: TRUE , repetition.eventFrequency.includeUpperBound: TRUE , repetition.eventFrequency.resolution: 1 , repetition.eventFrequency.measureSemantic:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| [416118004 |Administration (procedure)]- ->(260686004 |Method (attribute))->[129445006 |Administration - action (qualifier value)]- ->(363701004 |Direct substance (attribute))->[Rx;1151347 Bumetanide Injectable Product] ->(410675002 |Route of administration (attribute))->[47625008 |Intravenous route (qualifier value)]- ->(246501002 |Technique (attribute))->[397801003 |Single bolus (qualifier

value)]; 258684004 |milligram (qualifier value)| 258702006 |hour (qualifier value)|)

☐ Metolazone 2.5-5 mg oral daily, 30 minutes prior to loop diuretic dose

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Postcoordinated Expression , unstructured[0]: 30 minutes prior to loop diuretic dose , repetition.periodDuration.lowerBound: 1 , repetition.periodDuration.includeLowerBound: TRUE , repetition.periodDuration.includeUpperBound: TRUE , repetition.periodDuration.resolution: 1 , repetition.periodDuration.measureSemantic:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| [416118004 |Administration (procedure)] ->(260686004 |Method (attribute))->[129445006 |Administration - action (qualifier value)] ->(363701004 |Direct substance (attribute))->[Rx;1163518 Metolazone Oral Product] ->(410675002 |Route of administration (attribute))->[26643006 |Oral route (qualifier value)] 258703001 | day (qualifier value)|)

Potassium Replacement

☐ Potassium replacement per protocol

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Postcoordinated Expression , unstructured[0]: per protocol"

(Codes: 385644000 |Requested (qualifier value)| [416118004 |Administration (procedure)] ->(260686004 |Method (attribute))->[129445006 |Administration - action (qualifier value)] ->(363701004 |Direct substance (attribute))->[Rx;8591 Potassium Chloride])

Sentence ▸ ☐ Potassium chloride 10-20 meq

○ Potassium chloride X meq (max 60 meq) oral ONCE

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Postcoordinated Expression , requestedResult.lowerBound: 0 , requestedResult.upperBound: 60 , requestedResult.includeLowerBound: FALSE , requestedResult.includeUpperBound: TRUE , requestedResult.measureSemantic:Precoordinated Expression , repetition.periodDuration.lowerBound: 1 , repetition.periodDuration.upperBound: 1 , repetition.periodDuration.includeLowerBound: TRUE , repetition.periodDuration.includeUpperBound: TRUE , repetition.periodDuration.resolution: 1 , repetition.periodDuration.measureSemantic:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| [416118004 |Administration (procedure)] ->(260686004 |Method (attribute))->[129445006 |Administration - action (qualifier value)] ->(363701004 |Direct substance (attribute))->[Rx;8591 Potassium Chloride] 258727004 |milliequivalent (qualifier value)| 258703001 |day (qualifier value)|)

○ Potassium chloride X meq (max 60 meq) oral DAILY

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Post-coordinated Expression , requestedResult.lowerBound: 0 , requestedResult.upperBound: 60 , requestedResult.includeLowerBound: FALSE , requestedResult.includeUpperBound: TRUE , requestedResult.measureSemantic:Precoordinated Expression , repetition.periodDuration.lowerBound: 1 , repetition.periodDuration.upperBound: 1 , repetition.periodDuration.includeLowerBound: TRUE , repetition.periodDuration.includeUpperBound: TRUE , repetition.periodDuration.resolution: 1 , repetition.periodDuration.measureSemantic:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| [416118004 |Administration (procedure)] ->(260686004 |Method (attribute))->[129445006 |Administration - action (qualifier value)] ->(363701004 |Direct substance (attribute))->[Rx;8591 Potassium Chloride] 258727004 |milliequivalent (qualifier value)| 258703001 |day (qualifier value)|)

○ Potassium chloride X meq (max 60 meq) oral BID

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Post-coordinated Expression , requestedResult.lowerBound: 0 , requestedResult.upperBound: 60 , requestedResult.includeLowerBound: FALSE , requestedResult.includeUpperBound: TRUE , requestedResult.measureSemantic:Precoordinated Expression , repetition.eventFrequency.lowerBound: 2 , repetition.eventFrequency.upperBound: 2 , repetition.eventFrequency.includeLowerBound: TRUE , repetition.eventFrequency.includeUpperBound: TRUE , repetition.eventFrequency.resolution: 1 , repetition.eventFrequency.measureSemantic:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| [416118004 |Administration (procedure)] ->(260686004 |Method (attribute))->[129445006 |Administration - action (qualifier value)] ->(363701004 |Direct substance (attribute))->[Rx;8591 Potassium Chloride] ->(410675002 |Route of administration (attribute))->[26643006 |Oral route (qualifier value)] 258727004 |milliequivalent (qualifier value)| 258703001 |day (qualifier value)|)

☐ Angiotensin-Converting Enzyme (ACE-I) Inhibitors [if not on Angiotensin Receptor Blockers (ARBs)]

☐ Captopril [initial 6.25-12.5, max 50] mg oral, three times daily (tid)

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Postcoordinated Expression , unstructured[0]: initial 6.25-12.5, max 50 , requestedResult.lowerBound: 6.25 , requestedResult.upperBound: 50 , requestedResult.includeLowerBound: TRUE , requestedResult.includeUpperBound: TRUE , requestedResult.measureSemantic:Precoordinated Expression , repetition.eventFrequency.lowerBound: 3 , repetition.eventFrequency.upperBound: 3 , repetition.eventFrequency.includeLowerBound: TRUE , repetition.eventFrequency.includeUp-

perBound: TRUE , repetition.eventFrequency.measureSemantic:Precoordinated Expression , repetition.periodDuration.lowerBound: 1 , repetition.periodDuration.includeLowerBound: TRUE , repetition.periodDuration.includeUpperBound: FALSE , repetition.periodDuration.resolution: 1 , repetition.periodDuration.measureSemantic:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| [416118004 |Administration (procedure)] ->(260686004 |Method (attribute))->[129445006 |Administration - action (qualifier value)] ->(363701004 |Direct substance (attribute))->[Rx;1155754 Captopril Pill] ->(410675002 |Route of administration (attribute))->[26643006 |Oral route (qualifier value)] 258727004 |milliequivalent (qualifier value)| 258703001 |day (qualifier value)| 258703001 |day (qualifier value)|)

☐ Lisinopril [initial 2.5-5, max 40]mg tablet oral daily hold for symptomatic systolic BP less than 90

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Postcoordinated Expression , unstructured[0]: initial 2.5-5, max 40 , unstructured[0]: hold for symptomatic systolic BP less than 90 , requestedResult.lowerBound: 2.5 , requestedResult.upperBound: 40 , requestedResult.includeLowerBound: TRUE , requestedResult.includeUpperBound: TRUE , requestedResult.measureSemantic:Precoordinated Expression , repetition.eventFrequency.lowerBound: 1 , repetition.eventFrequency.upperBound: 1 , repetition.eventFrequency.includeLowerBound: TRUE , repetition.eventFrequency.includeUpperBound: TRUE , repetition.eventFrequency.measureSemantic:Precoordinated Expression , repetition.periodDuration.lowerBound: 1 , repetition.periodDuration.includeLowerBound: TRUE , repetition.periodDuration.includeUpperBound: FALSE , repetition.periodDuration.resolution: 1 , repetition.periodDuration.measureSemantic:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| [416118004 |Administration (procedure)] ->(260686004 |Method (attribute))->[129445006 |Administration - action (qualifier value)] ->(363701004 |Direct substance (attribute))->[Rx;1164690 Lisinopril Pill] ->(410675002 |Route of administration (attribute))->[26643006 |Oral route (qualifier value)] 258727004 |milliequivalent (qualifier value)| 258703001 |day (qualifier value)| 258703001 |day (qualifier value)|)

☐ Enalapril [initial 2.5, max-20] mg tablet oral daily hold for symptomatic systolic BP less than 90

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Postcoordinated Expression , unstructured[0]: initial 2.5, max-20 , unstructured[0]: hold for symptomatic systolic BP less than 90 , requestedResult.lowerBound: 2.5 , requestedResult.upperBound: 20 , requestedResult.includeLowerBound: TRUE , requestedResult.includeUpperBound: TRUE , requestedResult.measureSemantic:Precoordinated Expression , repetition.eventFrequency.lowerBound: 1 , repetition.eventFrequency.upperBound: 1 , repetition.eventFrequency.includeLowerBound: TRUE , repetition.eventFrequency.includeUpperBound: TRUE , repetition.eventFrequency.measureSemantic:Precoordinated Expression , repetition.periodDuration.lowerBound: 1 , repetition.periodDuration.includeLowerBound: TRUE , repetition.periodDuration.includeUpperBound: FALSE , repetition.periodDuration.resolution: 1 , repetition.periodDuration.measureSemantic:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| [416118004 |Administration (procedure)] ->(260686004 |Method (attribute))->[129445006 |Administration - action (qualifier value)] ->(363701004 |Direct substance (attribute))->[Rx;1162653 Enalapril Pill] ->(410675002 |Route of administration (attribute))->[26643006 |Oral route (qualifier value)] 258727004 |milliequivalent (qualifier value)| 258703001 |day (qualifier value)| 258703001 |day (qualifier value)|)

☐ Angiotensin II Receptor Blockers (ARBs) [if not on ACE-I]

☐ Losartan [initial 25-50, max 150] mg tablet oral daily hold for symptomatic systolic BP less than 90

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression statementType:Precoordinated Expression , topic:Postcoordinated Expression , unstructured[0]: initial 25-50, max 150 , unstructured[0]: hold for symptomatic systolic BP less than 90 , requestedResult.lowerBound: 25 , requestedResult.upperBound: 150 , requestedResult.includeLowerBound: TRUE , requestedResult.includeUpperBound: TRUE , requestedResult.measureSemantic:Precoordinated Expression , repetition.eventFrequency.lowerBound: 1 , repetition.eventFrequency.upperBound: 1 , repetition.eventFrequency.includeLowerBound: TRUE , repetition.eventFrequency.includeUpperBound: TRUE , repetition.eventFrequency.measureSemantic:Precoordinated Expression , repetition.periodDuration.lowerBound: 1 , repetition.periodDuration.includeLowerBound: TRUE , repetition.periodDuration.includeUpperBound: FALSE , repetition.periodDuration.resolution: 1 , repetition.periodDuration.measureSemantic:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| 385644000 |Requested (qualifier value)| [416118004 |Administration (procedure)] ->(260686004 |Method (attribute))->[129445006 |Administration - action (qualifier value)] ->(363701004 |Direct substance (attribute))->[Rx;1165343 Losartan Pill] ->(410675002 |Route of administration (attribute))->[26643006 |Oral route (qualifier value)] 258727004 |milliequivalent (qualifier value)| 258703001 |day (qualifier value)| 258703001 |day (qualifier value)|)

☐ Valsartan [initial 20- 40, max 160]mg tablet oral 2 times daily hold for symptomatic systolic BP less than 90

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Postcoordinated Expression , unstructured[0]: initial 20- 40, max 160 , unstructured[0]: hold for symptomatic systolic BP less than 90 , requestedResult.lowerBound: 20 , requestedResult.upperBound: 160 , requestedResult.includeLowerBound: TRUE , requestedResult.includeUpperBound: TRUE , requestedResult.measureSemantic:Precoordinated Expression , repetition.eventFrequency.lowerBound: 2 , repetition.eventFrequency.upperBound: 2 , repetition.eventFrequency.includeLowerBound: TRUE , repetition.eventFrequency.includeUpperBound: TRUE , repetition.eventFrequency.measureSemantic:Precoordinated Expression , repetition.periodDuration.lowerBound: 1 , repetition.periodDuration.includeLowerBound: TRUE , repetition.periodDuration.includeUpperBound: FALSE , repetition.periodDuration.resolution: 1 , repetition.periodDuration.measureSemantic:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| [416118004 |Administration (procedure)] ->(260686004 |Method (attribute))->[129445006 |Ad-

ministration - action (qualifier value)] ->(363701004 |Direct substance (attribute))->[Rx;1164561 valsartan Pill] ->(410675002 |Route of administration (attribute))->[26643006 |Oral route (qualifier value)] 258727004 |milliequivalent (qualifier value)| 258703001 |day (qualifier value)| 258703001 |day (qualifier value)|)

☐ Angiotensin Receptor-Neprilysin Inhibitors (ARNIs)

☐ Sacubitril 49 mg / Valsartan 51 mg 1 tablet oral daily 2 times hold for symptomatic systolic BP less than 90

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Postcoordinated Expression , unstructured[0]: hold for symptomatic systolic BP less than 90 , requestedResult.lowerBound: 2 , requestedResult.upperBound: 2 , requestedResult.includeLowerBound: TRUE , requestedResult.includeUpperBound: TRUE , requestedResult.measureSemantic:Precoordinated Expression , repetition.eventFrequency.lowerBound: 1 , repetition.eventFrequency.upperBound: 1 , repetition.eventFrequency.includeLowerBound: TRUE , repetition.eventFrequency.includeUpperBound: TRUE , repetition.eventFrequency.measureSemantic:Precoordinated Expression , repetition.periodDuration.lowerBound: 1 , repetition.periodDuration.includeLowerBound: TRUE , repetition.periodDuration.includeUpperBound: FALSE , repetition.periodDuration.resolution: 1 , repetition.periodDuration.measureSemantic:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| [416118004 |Administration (procedure)] ->(260686004 |Method (attribute))->[129445006 |Administration - action (qualifier value)] ->(363701004 |Direct substance (attribute))->[Rx;1656349 sacubitril 49 MG / valsartan 51 MG Oral Tablet] ->(410675002 |Route of administration (attribute))->[26643006 |Oral route (qualifier value)] 258727004 |milliequivalent (qualifier value)| 258703001 |day (qualifier value)| 258703001 |day (qualifier value)|)

☐ Beta-Blockers

☐ Metoprolol succinate [initial 12.5-25, max 200] mg tablet oral daily hold for symptomatic systolic BP less than 90

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Postcoordinated Expression , unstructured[0]: initial 12.5-25, max 200 , unstructured[1]: hold for symptomatic systolic BP less than 90 , requestedResult.lowerBound: 12.5 , requestedResult.upperBound: 200 , requestedResult.includeLowerBound: TRUE , requestedResult.includeUpperBound: TRUE , requestedResult.measureSemantic:Precoordinated Expression , repetition.eventFrequency.lowerBound: 1 , repetition.eventFrequency.upperBound: 1 , repetition.eventFrequency.includeLowerBound: TRUE , repetition.eventFrequency.includeUpperBound: TRUE , repetition.eventFrequency.measureSemantic:Precoordinated Expression , repetition.periodDuration.lowerBound: 1 , repetition.periodDuration.includeLowerBound: TRUE , repetition.periodDuration.includeUpperBound: FALSE , repetition.periodDuration.resolution: 1 , repetition.periodDuration.measureSemantic:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| [416118004 |Administration (procedure)] ->(260686004 |Method (attribute))->[129445006 |Administration - action (qualifier value)] ->(363701004 |Direct substance (attribute))->[Rx;1163524 Metoprolol Pill] ->(410675002 |Route of administration (attribute))->[26643006 |Oral route (qualifier value)] 258727004 |mil-

liequivalent (qualifier value)| 258703001 |day (qualifier value)| 258703001 | day (qualifier value)|)

☐ Carvedilol [initial 3.125, max 25] mg tablet oral daily 2 times hold for symptomatic systolic BP less than 90

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Postcoordinated Expression , unstructured[0]: initial 3.125, max 25 , unstructured[1]: hold for symptomatic systolic BP less than 90 , requestedResult.lowerBound: 3.125 , requestedResult.upperBound: 25 , requestedResult.includeLowerBound: TRUE , requestedResult.includeUpperBound: TRUE , requestedResult.measureSemantic:Precoordinated Expression , repetition.eventFrequency.lowerBound: 1 , repetition.eventFrequency.upperBound: 1 , repetition.eventFrequency.includeLowerBound: TRUE , repetition.eventFrequency.includeUpperBound: TRUE , repetition.eventFrequency.measureSemantic:Precoordinated Expression , repetition.periodDuration.lowerBound: 1 , repetition.periodDuration.includeLowerBound: TRUE , repetition.periodDuration.includeUpperBound: FALSE , repetition.periodDuration.resolution: 1 , repetition.periodDuration.measureSemantic:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| [416118004 |Administration (procedure)] ->(260686004 |Method (attribute))->[129445006 |Administration - action (qualifier value)] ->(363701004 |Direct substance (attribute))->[Rx;1160590 carvedilol Pill] ->(410675002 |Route of administration (attribute))->[26643006 |Oral route (qualifier value)] 258727004 |milliequivalent (qualifier value)| 258703001 |day (qualifier value)| 258703001 |day (qualifier value)|)

☐ Aldosterone Antagonists

☐ Spflironolactone [initial 12.5, max] 25 mg tablet oral daily

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Postcoordinated Expression , unstructured[0]: initial 12.5, max 25 , requestedResult.lowerBound: 12.5 , requestedResult.upperBound: 25 , requestedResult.includeLowerBound: TRUE , requestedResult.includeUpperBound: TRUE , requestedResult.measureSemantic:Precoordinated Expression , repetition.eventFrequency.lowerBound: 1 , repetition.eventFrequency.upperBound: 1 , repetition.eventFrequency.includeLowerBound: TRUE , repetition.eventFrequency.includeUpperBound: TRUE , repetition.eventFrequency.measureSemantic:Precoordinated Expression , repetition.periodDuration.lowerBound: 1 , repetition.periodDuration.includeLowerBound: TRUE , repetition.periodDuration.includeUpperBound: FALSE , repetition.periodDuration.resolution: 1 , repetition.periodDuration.measureSemantic:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| [416118004 |Administration (procedure)] ->(260686004 |Method (attribute))->[129445006 |Administration - action (qualifier value)] ->(363701004 |Direct substance (attribute))->[Rx;1161123 Spironolactone Pill] ->(410675002 |Route of administration (attribute))->[26643006 |Oral route (qualifier value)] 258727004 |milliequivalent (qualifier value)| 258703001 |day (qualifier value)| 258703001 | day (qualifier value)|)

☐ Eplerenone [initial 25, max 50] mg tablet oral daily

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Postcoordinated Expression , unstructured[0]: initial 25, max 50 , requestedResult.lowerBound: 25 , requestedResult.upperBound: 50 , requestedResult.includeLowerBound: TRUE , requestedResult.includeUpperBound: TRUE , requestedResult.measureSemantic:Precoordinated Expression , repetition.eventFrequency.lowerBound: 1 , repetition.eventFrequency.upperBound: 1 , repetition.eventFrequency.includeLowerBound: TRUE , repetition.eventFrequency.includeUpperBound: TRUE , repetition.eventFrequency.measureSemantic:Precoordinated Expression , repetition.periodDuration.lowerBound: 1 , repetition.periodDuration.includeLowerBound: TRUE , repetition.periodDuration.includeUpperBound: FALSE , repetition.periodDuration.resolution: 1 , repetition.periodDuration.measureSemantic:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| [416118004 |Administration (procedure)] ->(260686004 |Method (attribute))->[129445006 |Administration - action (qualifier value)] ->(363701004 |Direct substance (attribute))->[Rx;1161910 eplerenone Pill] ->(410675002 |Route of administration (attribute))->[26643006 |Oral route (qualifier value)] 258727004 |milliequivalent (qualifier value)| 258703001 |day (qualifier value)| 258703001 | day (qualifier value)|)

☐ Hydralazine/Nitrates

☐ Hydralazine 37.5 mg/ Isosorbide dinitrate 20 mg 1 tablet oral 3 times daily (tid)

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Postcoordinated Expression , requestedResult.lowerBound: 1 , requestedResult.upperBound: 1 , requestedResult.includeLowerBound: TRUE , requestedResult.includeUpperBound: TRUE , requestedResult.measureSemantic:Precoordinated Expression , repetition.periodDuration.lowerBound: 1 , repetition.periodDuration.includeLowerBound: TRUE , repetition.periodDuration.includeUpperBound: FALSE , repetition.periodDuration.resolution: 1 , repetition.periodDuration.measureSemantic:Precoordinated Expression , repetition.eventFrequency.lowerBound: 3 , repetition.eventFrequency.upperBound: 3 , repetition.eventFrequency.includeLowerBound: TRUE , repetition.eventFrequency.includeUpperBound: TRUE , repetition.eventFrequency.measureSemantic:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| [416118004 |Administration (procedure)] ->(260686004 |Method (attribute))->[129445006 |Administration - action (qualifier value)] ->(363701004 |Direct substance (attribute))->[Rx;905377 hydrALAZINE Hydrochloride 37.5 MG / Isosorbide Dinitrate 20 MG Oral Tablet] ->(410675002 |Route of administration (attribute))->[26643006 |Oral route (qualifier value)] 421026006 |Oral tablet (qualifier value)| 258702006 |hour (qualifier value)| 258703001 |day (qualifier value)|)

☐ Cardiac Glycosides

☐ Digoxin 0.125 micrograms tablet oral daily

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Precoordinated Expression topic:Postcoordinated Expression , requestedResult.lowerBound: 1 , requestedResult.upperBound: 1 , requestedResult.includeLowerBound: TRUE , requestedResult.includeUpperBound: TRUE , requestedResult.measureSemantic:Precoordinated Expression , repetition.periodDuration.lowerBound: 1 , repetition.periodDuration.includeLower-

Bound: TRUE , repetition.periodDuration.includeUpperBound: FALSE , repetition.periodDuration.resolution: 1 , repetition.periodDuration.measureSemantic:Precoordinated Expression , repetition.eventFrequency.lowerBound: 1 , repetition.eventFrequency.upperBound: 1 , repetition.eventFrequency.includeLowerBound: TRUE , repetition.eventFrequency.includeUpperBound: TRUE , repetition.eventFrequency.measureSemantic:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| [416118004 |Administration (procedure)] ->(260686004 |Method (attribute))->[129445006 |Administration - action (qualifier value)] ->(363701004 |Direct substance (attribute))->[Rx;197604 Digoxin 0.125 MG Oral Tablet] ->(410675002 | Route of administration (attribute))->[26643006 |Oral route (qualifier value)] 421026006 |Oral tablet (qualifier value)| 258702006 |hour (qualifier value)| 258703001 |day (qualifier value)|)

# Chapter 15. Tabular List

## *Terminology Service Request (TSR) Mappings*

**Table 15.1. Terminology References**

| System | Code | Display Text | References |
|---|---|---|---|
| SNOMED CT | 104847001 \|Oxygen saturation measurement (procedure)\| | Precoordinated Expression | 1 |
| SNOMED CT | 105376000 \|Transesophageal echocardiography (procedure)\| | Precoordinated Expression | 2 |
| SNOMED CT | 121870001 \|Troponin I measurement (procedure)\| | Precoordinated Expression | 2 |
| SNOMED CT | 1221000205105 \|Cardiology consultation and report (procedure) | Precoordinated Expression | 1 |
| SNOMED CT | 1231000205107 \|Advanced heart failure service consultation and report (procedure) | Precoordinated Expression | 1 |
| SNOMED CT | 1241000205102 \|Electrophysiology service consultation and report (procedure) | Precoordinated Expression | 1 |
| SNOMED CT | 1411000205104 \|Comprehensive metabolic panel (procedure) | Precoordinated Expression | 2 |
| SNOMED CT | 1421000205106 \|Basic metabolic panel (procedure) | Precoordinated Expression | 2 |
| SNOMED CT | 14456009 \|Measuring height of patient (procedure)\| | Precoordinated Expression | 1 |
| SNOMED CT | 16545381000119101 \|Single photon emission computed tomography of myocardial perfusion with computed tomography (procedure)\| | Precoordinated Expression | 1 |
| SNOMED CT | 182923009 \|Nil by mouth (regime/therapy)\| | Precoordinated Expression | 1 |
| SNOMED CT | 1d5d8220-9818-4c10-a471-3b9ad32d061e \| Bedrest with bedside commode (regime/therapy) | Precoordinated Expression | 1 |

| System | Code | Display Text | References |
|---|---|---|---|
| SNOMED CT | 225316001 \|Bedrest (regime/therapy)\| | Precoordinated Expression | 1 |
| SNOMED CT | 225372007 \|Total parenteral nutrition (regime/therapy)\| | Total Parenteral Nutrition (TPN) | 1 |
| SNOMED CT | 252150008 \|Fasting lipid profile (procedure)\| | Precoordinated Expression | 1 |
| SNOMED CT | 252465000 \|Pulse oximetry (procedure)\| | Precoordinated Expression | 1 |
| SNOMED CT | 25389001 \|Fluid restriction (procedure)\| | Precoordinated Expression | 1 |
| SNOMED CT | 25514001 \|Digoxin measurement (procedure)\| | Precoordinated Expression | 1 |
| SNOMED CT | 258677007 \|Inch (qualifier value)\| | Precoordinated Expression | 1 |
| SNOMED CT | 258684004 \|milligram (qualifier value)\| | Precoordinated Expression | 4 |
| SNOMED CT | 258693003 \|pounds (qualifier value)\| | Precoordinated Expression | 1 |
| SNOMED CT | 258701004 \|min (qualifier value)\| | Precoordinated Expression | 1 |
| SNOMED CT | 258702006 \|hour (qualifier value)\| | Precoordinated Expression | 15 |
| SNOMED CT | 258703001 \|day (qualifier value)\| | Precoordinated Expression | 30 |
| SNOMED CT | 258727004 \|milliequivalent (qualifier value)\| | Precoordinated Expression | 13 |
| SNOMED CT | 258752002 \|% oxyhemoglobin (qualifier value)\| | Precoordinated Expression | 3 |
| SNOMED CT | 258790008 \|calorie (qualifier value)\| | Precoordinated Expression | 1 |
| SNOMED CT | 258858008 \|Liter/24 hours (qualifier value)\| | Precoordinated Expression | 2 |
| SNOMED CT | 258994006 \|Liter/minute (qualifier value)\| | Precoordinated Expression | 1 |
| SNOMED CT | 26604007 \|Complete blood count (procedure)\| | Precoordinated Expression | 2 |
| SNOMED CT | 268400002 \|12 lead electrocardiogram (procedure)\| | Precoordinated Expression | 2 |
| SNOMED CT | 26958001 \|Hepatic function panel (procedure)\| | Precoordinated Expression | 1 |
| SNOMED CT | 297751002 \|Infusion of saline solution (procedure)\| | Precoordinated Expression | 1 |

| System | Code | Display Text | References |
|---|---|---|---|
| SNOMED CT | 305056002 \|Admission procedure (procedure)\| | Precoordinated Expression | 2 |
| SNOMED CT | 305342007 \|Admission to ward (procedure)\| | Precoordinated Expression | 1 |
| SNOMED CT | 305351004 \|Admission to intensive care unit (procedure)\| | Precoordinated Expression | 1 |
| SNOMED CT | 33022008 \|Hospital-based outpatient department (environment)\| | Outpatient clinic, hospital, and ED settings | 1 |
| SNOMED CT | 33747003 \|Glucose measurement, blood (procedure)\| | Blood glucose | 2 |
| SNOMED CT | 371907003 \|Oxygen administration by nasal cannula (procedure)\| | Precoordinated Expresssion | 2 |
| SNOMED CT | 371908008 \|Oxygen administration by mask (procedure)\| | Precoordinated Expression | 1 |
| SNOMED CT | 38151008 \|Magnesium measurement (procedure)\| | Precoordinated Expression | 2 |
| SNOMED CT | 385644000 \|Requested (qualifier value)\| | Precoordinated Expression | 123 |
| SNOMED CT | 386341005 \|Invasive hemodynamic monitoring (regime/therapy)\| | Precoordinated Expression | 1 |
| SNOMED CT | 390917008 \|Brain natriuretic peptide measurement (procedure)\| | Precoordinated Expression | 2 |
| SNOMED CT | 392247006 \|Insertion of catheter into artery (procedure)\| | Precoordinated Expression | 1 |
| SNOMED CT | 396451008 \|Prothrombin time (procedure)\| | Precoordinated Expression | 2 |
| SNOMED CT | 39857003 \|Weighing patient (procedure)\| | Precoordinated Expression | 2 |
| SNOMED CT | 400c3d0a-171f-4b6f-83f8-638c22a22068 \|Regular diet (regime/therapy)\| | Regular | 1 |
| SNOMED CT | 404221001 \|Multiple gated acquisition scanning (procedure)\| | Precoordinated Expression | 1 |
| SNOMED CT | 410155007 \|Occupational therapy assessment (procedure)\| | Precoordinated Expression | 1 |

| System | Code | Display Text | References |
|---|---|---|---|
| SNOMED CT | 421026006 \|Oral tablet (qualifier value)\| | Precoordinated Expression | 4 |
| SNOMED CT | 423687009 \|Peripheral intravenous catheter care (regime/therapy)\| | Precoordinated Expression | 1 |
| SNOMED CT | 424410003 \|Bedrest with bathroom privileges (regime/therapy)\| | Precoordinated Expression | 1 |
| SNOMED CT | 42525009 \|Partial thromboplastin time, activated (procedure)\| | Precoordinated Expression | 2 |
| SNOMED CT | 42869005 \|Diagnostic radiography of chest, combined posteroanterior and lateral (procedure)\| | Precoordinated Expression | 2 |
| SNOMED CT | 429253002 \|Oxygen administration by Venturi mask (procedure)\| | Precoordinated Expression | 1 |
| SNOMED CT | 431511008 \|Myocardial perfusion stress imaging using Thallium 201 (procedure)\| | Thallium Myocardial Perfusion Imaging (MPI) viability testing | 1 |
| SNOMED CT | 433236007 \|Transthoracic echocardiography (procedure)\| | Precoordinated Expression | 2 |
| SNOMED CT | 436711000124106 \|Decreased cholesterol diet (regime/therapy)\| | Precoordinated Expression | 1 |
| SNOMED CT | 436861000124104 \|Decreased fat diet (regime/therapy)\| | Precoordinated Expression | 1 |
| SNOMED CT | 437421000124105 \|Decreased sodium diet (regime/therapy)\| | Precoordinated Expression | 1 |
| SNOMED CT | 439993001 \|Prevention of deep vein thrombosis (regime/therapy)\| | Precoordinated Expression | 1 |
| SNOMED CT | 443749004 \|Assessment of risk of venous thromboembolism (procedure)\| | Precoordinated Expression | 1 |
| SNOMED CT | 445970000 \|Moving subject from bed to chair (procedure)\| | Precoordinated Expression | 1 |
| SNOMED CT | 446583004 \|Insertion of indwelling catheter into urinary bladder (procedure)\| | Precoordinated Expression | 2 |

| System | Code | Display Text | References |
|---|---|---|---|
| SNOMED CT | 44ee63fe-94f-b-4cf1-97d7-a2e73075596f \|Measuring intake and output, strict (procedure) | Precoordinated Expression | 1 |
| SNOMED CT | 46a4b669-f7e6-4aa7-8ad8-7ff5c1f-bce83 \|Catheterization of urinary blader using condom catheter (procedure) | Precoordinated Expression | 1 |
| SNOMED CT | 491e8c86-91e0-49a7-a4a3-dd1da05ad071 \|Insertion of peripheral venous cannula with heparin lock (procedure) | Precoordinated Expression | 1 |
| SNOMED CT | 49499008 \|Stat (qualifier value)\| | Precoordinated Expression | 20 |
| SNOMED CT | 4d555c8a-d2af-4dbf-b81a-9eaddec2a7d8 \|Admission to stepdown unit (procedure)\| | Precoordinated Expression | 1 |
| SNOMED CT | 50811001 \|Routine (qualifier value)\| | Precoordinated Expression | 4 |
| SNOMED CT | 57485005 \|Oxygen therapy (procedure)\| | Precoordinated Expression | 1 |
| SNOMED CT | 61167004 \|Thyroid stimulating hormone measurement (procedure)\| | Precoordinated Expression | 2 |
| SNOMED CT | 61420007 \|Tube feeding of patient (regime/therapy)\| | tube feeding | 1 |
| SNOMED CT | 61746007 \|Taking patient vital signs (procedure)\| | Precoordinated Expression | 2 |
| SNOMED CT | 63061008 \|Measuring intake and output (procedure)\| | Precoordinated Expression | 5 |
| SNOMED CT | 6b343927-35d-f-458e-b365-69fd00ba12e6 \|Insertion of peripheral venous cannula with saline lock (procedure) | Precoordinated Expression | 1 |
| SNOMED CT | 73775008 \|Morning (qualifier value)\| | Precoordinated Expression | 16 |
| SNOMED CT | 75f0ca2c-e68a-44ca-81f8-10e53f-f7a855 \|Admission to telemetry department (procedure)\| | Precoordinated Expression | 1 |

| System | Code | Display Text | References |
|---|---|---|---|
| SNOMED CT | 7ab0a3e5-ea2d-45c4-916a-6e03a4771b93 |Urine digoxin measurement (procedure) | Precoordinated Expression | 1 |
| SNOMED CT | 82936005 |Introduction of catheter into pulmonary artery (procedure)| | Precoordinated Expression | 1 |
| SNOMED CT | 84114007 |Heart failure (disorder)| | diagnosis suggestive of initial or recurrent heart failure | 1 |
| SNOMED CT | 91308007 |Blood gases, arterial measurement (procedure)| | Precoordinated Expression | 1 |
| SNOMED CT | TSR-NoCode | Precoordinated Expression | 12 |
| SNOMED CT | [223438000 |Recommendation to discontinue a procedure (procedure)] ->(363702006 |Has focus (attribute))->[15220000 |Laboratory test (procedure)] | May be off telemetry for lab testing | 1 |
| SNOMED CT | [223438000 |Recommendation to discontinue a procedure (procedure)] ->(363702006 |Has focus (attribute))->[363679005 | Imaging (procedure)] | May be off telemetry for imaging studies | 1 |
| SNOMED CT | [223438000 |Recommendation to discontinue a procedure (procedure)] ->(363702006 |Has focus (attribute))->[422952004 | Cardiac telemetry (regime/therapy)] | May be off telemetry for imaging studies | 1 |
| SNOMED CT | [36576007 |Infusion (procedure)] ->(363701004 |Direct substance (attribute))->[347379006 | Lactated Ringer's solution (product)] | Postcoordinated Expression | 1 |
| SNOMED CT | [36576007 |Infusion (procedure)] ->(363701004 |Direct substance (attribute))->[Rx;1795250 1000 ML Glucose 50 MG/ML / Sodium Chloride 4.5 MG/ML Injection] | Postcoordinated Expression | 1 |
| SNOMED CT | [386053000 |Evaluation procedure (procedure)] - | Postcoordinated Expression | 1 |

| System | Code | Display Text | References |
|---|---|---|---|
| | >(363702006 \|Has focus (attribute))->[250908004 \|Left ventricular ejection fraction (observable entity)] | | |
| SNOMED CT | [386053000 \|Evaluation procedure (procedure)] ->(363702006 \|Has focus (attribute))->[250939002 \| Right ventricular ejection fraction (observable entity)] | Postcoordinated Expression | 1 |
| SNOMED CT | [386053000 \|Evaluation procedure (procedure)] ->(363702006 \|Has focus (attribute))->[84114007 \| Heart failure (disorder)] | Postcoordinated Expression | 8 |
| SNOMED CT | [386053000 \|Evaluation procedure (procedure)] ->(363702006 \|Has focus (attribute))->[85898001 \| Cardiomyopathy (disorder)] | Postcoordinated Expression | 2 |
| SNOMED CT | [416118004 \|Administration (procedure)] ->(260686004 \|Method (attribute))->[129445006 \|Administration - action (qualifier value)] ->(363701004 \| Direct substance (attribute))->[398730001 \| Pneumococcal vaccine (substance)] | Postcoordinated Expression | 1 |
| SNOMED CT | [416118004 \|Administration (procedure)] ->(260686004 \|Method (attribute))->[129445006 \|Administration - action (qualifier value)] ->(363701004 \| Direct substance (attribute))->[46233009 \| Influenza virus vaccine (product)] | Postcoordinated Expression | 1 |
| SNOMED CT | [416118004 \|Administration (procedure)] ->(260686004 \|Method (attribute))->[129445006 \|Administration - ac- | Postcoordinated Expression | 1 |

| System | Code | Display Text | References |
|---|---|---|---|
| | tion (qualifier value)] ->(363701004 \| Direct substance (attribute))->[Rx;1155754 Captopril Pill] ->(410675002 \|Route of administration (attribute))->[26643006 \|Oral route (qualifier value)] | | |
| SNOMED CT | [416118004 \|Administration (procedure)] ->(260686004 \|Method (attribute))->[129445006 \|Administration - action (qualifier value)] ->(363701004 \| Direct substance (attribute))->[Rx;1160590 carvedilol Pill] ->(410675002 \|Route of administration (attribute))->[26643006 \|Oral route (qualifier value)] | Postcoordinated Expression | 1 |
| SNOMED CT | [416118004 \|Administration (procedure)] ->(260686004 \|Method (attribute))->[129445006 \|Administration - action (qualifier value)] ->(363701004 \| Direct substance (attribute))->[Rx;1161123 Spironolactone Pill] ->(410675002 \|Route of administration (attribute))->[26643006 \|Oral route (qualifier value)] | Postcoordinated Expression | 1 |
| SNOMED CT | [416118004 \|Administration (procedure)] ->(260686004 \|Method (attribute))->[129445006 \|Administration - action (qualifier value)] ->(363701004 \| Direct substance (attribute))->[Rx;1161910 eplerenone Pill] ->(410675002 \|Route of administration (attribute))->[26643006 \|Oral route (qualifier value)] | Postcoordinated Expression | 1 |

| System | Code | Display Text | References |
|---|---|---|---|
| SNOMED CT | [416118004 \|Administration (procedure)] ->(260686004 \|Method (attribute))->[129445006 \|Administration - action (qualifier value)] ->(363701004 \| Direct substance (attribute))->[Rx;1162653 Enalapril Pill] ->(410675002 \|Route of administration (attribute))->[26643006 \|Oral route (qualifier value)] | Postcoordinated Expression | 1 |
| SNOMED CT | [416118004 \|Administration (procedure)] ->(260686004 \|Method (attribute))->[129445006 \|Administration - action (qualifier value)] ->(363701004 \| Direct substance (attribute))->[Rx;1163518 Metolazone Oral Product] ->(410675002 \|Route of administration (attribute))->[26643006 \|Oral route (qualifier value)] | Postcoordinated Expression | 1 |
| SNOMED CT | [416118004 \|Administration (procedure)] ->(260686004 \|Method (attribute))->[129445006 \|Administration - action (qualifier value)] ->(363701004 \| Direct substance (attribute))->[Rx;1163524 Metoprolol Pill] ->(410675002 \|Route of administration (attribute))->[26643006 \|Oral route (qualifier value)] | Postcoordinated Expression | 1 |
| SNOMED CT | [416118004 \|Administration (procedure)] ->(260686004 \|Method (attribute))->[129445006 \|Administration - action (qualifier value)] ->(363701004 \| Direct substance (attribute))->[Rx;1164561 | Postcoordinated Expression | 1 |

| System | Code | Display Text | References |
|--------|------|--------------|-----------|
| | valsartan Pill] ->(410675002 \|Route of administration (attribute))->[26643006 \|Oral route (qualifier value)] | | |
| SNOMED CT | [416118004 \|Administration (procedure)] ->(260686004 \|Method (attribute))->[129445006 \|Administration - action (qualifier value)] ->(363701004 \| Direct substance (attribute))->[Rx;1164690 Lisinopril Pill] ->(410675002 \|Route of administration (attribute))->[26643006 \|Oral route (qualifier value)] | Postcoordinated Expression | 1 |
| SNOMED CT | [416118004 \|Administration (procedure)] ->(260686004 \|Method (attribute))->[129445006 \|Administration - action (qualifier value)] ->(363701004 \| Direct substance (attribute))->[Rx;1165343 Losartan Pill] ->(410675002 \|Route of administration (attribute))->[26643006 \|Oral route (qualifier value)] | Postcoordinated Expression | 1 |
| SNOMED CT | [416118004 \|Administration (procedure)] ->(260686004 \|Method (attribute))->[129445006 \|Administration - action (qualifier value)] ->(363701004 \| Direct substance (attribute))->[Rx;1656349 sacubitril 49 MG / valsartan 51 MG Oral Tablet] ->(410675002 \|Route of administration (attribute))->[26643006 \|Oral route (qualifier value)] | Postcoordinated Expression | 1 |
| SNOMED CT | [416118004 \|Administration (procedure)] ->(260686004 \|Method (at- | Postcoordinated Expression | 1 |

| System | Code | Display Text | References |
|---|---|---|---|
|  | tribute))->[129445006 \|Administration - action (qualifier value)] ->(363701004 \| Direct substance (attribute))->[Rx;197604 Digoxin 0.125 MG Oral Tablet] ->(410675002 \| Route of administration (attribute))->[26643006 \| Oral route (qualifier value)] |  |  |
| SNOMED CT | [416118004 \|Administration (procedure)] ->(260686004 \|Method (attribute))->[129445006 \|Administration - action (qualifier value)] ->(363701004 \| Direct substance (attribute))->[Rx;198467 Aspirin 325 MG Delayed Release Oral Tablet] | Postcoordinated Expression | 1 |
| SNOMED CT | [416118004 \|Administration (procedure)] ->(260686004 \|Method (attribute))->[129445006 \|Administration - action (qualifier value)] ->(363701004 \| Direct substance (attribute))->[Rx;308416 Aspirin 81 MG Delayed Release Oral Tablet] | Postcoordinated Expression | 1 |
| SNOMED CT | [416118004 \|Administration (procedure)] ->(260686004 \|Method (attribute))->[129445006 \|Administration - action (qualifier value)] ->(363701004 \| Direct substance (attribute))->[Rx;8591 Potassium Chloride] | Postcoordinated Expression | 3 |
| SNOMED CT | [416118004 \|Administration (procedure)] ->(260686004 \|Method (attribute))->[129445006 \|Administration - action (qualifier value)] ->(363701004 \| | Postcoordinated Expression | 1 |

| System | Code | Display Text | References |
|---|---|---|---|
| | Direct substance (attribute))->[Rx;8591 Potassium Chloride] ->(410675002 \|Route of administration (attribute))->[26643006 \|Oral route (qualifier value)] | | |
| SNOMED CT | [416118004 \|Administration (procedure)] ->(260686004 \|Method (attribute))->[129445006 \|Administration - action (qualifier value)] ->(363701004 \| Direct substance (attribute))->[Rx;905377 hydrALAZINE Hydrochloride 37.5 MG / Isosorbide Dinitrate 20 MG Oral Tablet] ->(410675002 \| Route of administration (attribute))->[26643006 \| Oral route (qualifier value)] | Postcoordinated Expression | 1 |
| SNOMED CT | [416118004 \|Administration (procedure)]- ->(260686004 \|Method (attribute))->[129445006 \|Administration - action (qualifier value)]- ->(363701004 \| Direct substance (attribute))->[Rx;1151347 Bumetanide Injectable Product] ->(410675002 \| Route of administration (attribute))->[47625008 \|Intravenous route (qualifier value)]- ->(246501002 \|Technique (attribute))->[397801003 \| Single bolus (qualifier value)]; | Postcoordinated Expression | 2 |
| SNOMED CT | [416118004 \|Administration (procedure)]- ->(260686004 \|Method (attribute))->[129445006 \|Administration - action (qualifier value)]- ->(363701004 \| Direct substance (at- | Postcoordinated Expression | 2 |

| System | Code | Display Text | References |
|--------|------|--------------|-----------|
| | tribute))->[Rx;1162712 Furosemide Injectable Product] ->(410675002 | Route of administration (attribute))->[47625008 |Intravenous route (qualifier value)] ->(246501002 |Technique (attribute))->[397801003 | Single bolus (qualifier value)];- | | |
| SNOMED CT | [67632007 |Diagnostic radiography of chest, posteroanterior (procedure)]-->(260686004 |Method (attribute))->[278110001 |Radiographic imaging - action (qualifier value)]- ->(405813007 |Procedure site - Direct (attribute))->[51185008 | Thoracic structure (body structure)] ->(424226004 |Using device (attribute))->[468611003 |Diagnostic x-ray system generator, portable (physical object)]; | Postcoordinated Expression | 2 |
| SNOMED CT | [a997cc03-3e99-40eb-833a-6374c7750a3a |Observation procedure (procedure)] ->(363702006 |Has focus (attribute))->[1371000205103 |Not for intubation (finding)] | Do Not Intubate (DNI) | 1 |
| SNOMED CT | [a997cc03-3e99-40eb-833a-6374c7750a3a |Observation procedure (procedure)] ->(363702006 |Has focus (attribute))->[304252001 | For resuscitation (finding)] | Full code | 1 |
| SNOMED CT | [a997cc03-3e99-40eb-833a-6374c7750a3a |Observation procedure (procedure)] ->(363702006 |Has focus (attribute))->[304253006 | | Do Not Resuscitate (DNR) | 1 |

| System | Code | Display Text | References |
|--------|------|--------------|-----------|
| | Not for resuscitation (finding)] | | |
| SNOMED CT | [a997cc03-3e99-40e-b-833a-6374c7750a3a \|Observation procedure (procedure)] ->(363702006 \|Has focus (attribute))->[416098002 \| Drug allergy (disorder)] | Postcoordinated Expression | 1 |
| SNOMED CT | [a997cc03-3e99-40e-b-833a-6374c7750a3a \|Observation procedure (procedure)] ->(363702006 \|Has focus (attribute))->[42343007 \| Congestive heart failure (disorder)] | Congestive heart failure (CHF) | 1 |
| SNOMED CT | a6894e46-3838-430b-b163-99fc45eada51 \|Diabetic diet (regime/therapy) | Precoordinated Expression | 1 |
| SNOMED CT | b43fa6a5-94a3-4098-8514-b4b5da9b899d \|Ambulating with assistance (regime/therapy) | Precoordinated Expression | 1 |
| SNOMED CT | c8006fd5-76d8-4c36-aa0c-90e6ff79d787 \|Magnetic resonance imaging of heart with delayed gadolinium contrast (procedure) | Precoordinated Expression | 1 |
| SNOMED CT | d37a9b17-bcb1-48a2-ab42-6b952d49404f \|No salt added diet (regime/therapy) | Precoordinated Expression | 1 |
| SNOMED CT | fcb801a9-8501-4343-a466-ace348383326 \|Cardiac semi-soft 2 gram sodium diet (regime/therapy) | 2gm Na | 1 |

# Chapter 16. Behavior Symbols

**Table 16.1. Group Organizational Behavior**

| Symbol | Name | Definition |
|---|---|---|
| ▶ | Sentence Group | A group of related alternative actions is a sentence group if the item referenced by the action is the same in all the actions, and each action simply constitutes a different variation on how to specify the details for that item. For example, two actions that could be in a SentenceGroup are "aspirin, 500 mg, 2 times per day" and "aspirin, 300 mg, 3 times per day". In both cases, aspirin is the item referenced by the action, and the two actions represent two different options for how aspirin might be ordered for the patient. Note that a SentenceGroup would almost always have an associated selection behavior of "AtMostOne", unless it's a required action, in which case, it would be "ExactlyOne". |
| ▷ | Logical Group | A group with this behavior logically groups its sub-elements, and may be shown as a visual group to the end user, but it is not required to do so. |
| ➤ | Visual Group | Any group marked with this behavior should be displayed as a visual group to the end user. |

**Table 16.2. Group Selection Behavior**

| Symbol | Name | Definition |
|---|---|---|
| □ | Any | Any number of the items in the group may be chosen, from zero to all. |
| ◉ | All | All the items in the group must be selected as a single unit. |
| ◎ | AllOrNone | All the items in the group are meant to be chosen as a single unit: either all must be selected by the end user, or none may be selected. |
| ○ | ExactlyOne | The end user must choose one and only one of the selectable items in the group. The user may not choose none of the items in the group. |
| ✪ | AtMostOne | The end user may choose zero or at most one of the items in the group. |
| ☀ | OneOrMore | The end user must choose a minimum of one, and as many additional as desired. |

**Table 16.3. Required Behavior**

| Symbol | Name | Definition |
|---|---|---|
| ✦ | Must | An action with this behavior must be included in the actions processed by the end user; the end user may not choose not to include this action. |

| Sym-bol | Name | Definition |
|---|---|---|
| ✧ | Could | An action with this behavior may be included in the set of ac-tions processed by the end user. |
| ➢ | MustUnlessDocumented | An action with this behavior must be included in the set of ac-tions processed by the end user, unless the end user provides documentation as to why the action was not included. |

## Table 16.4. Precheck Behavior

| Sym-bol | Name | Definition |
|---|---|---|
| ▲ | Yes | An action with this behavior is one of the most frequent actions that is, or should be, included by an end user, for the particular context in which the action occurs. The system displaying the action to the end user should consider "pre-checking" such an action as a convenience for the user. |
| ▽ | No | An action with this behavior is one of the less frequent actions included by the end user, for the particular context in which the action occurs. The system displaying the actions to the end user would typically not "pre-check" such an action. |

## Table 16.5. Cardinality Behavior

| Sym-bol | Name | Definition |
|---|---|---|
| ◆ | Single | An action with this behavior may only be completed once. |
| ❖ | Multiple | An action with this behavior may be repeated multiple times. |

## Table 16.6. Item Flags

| Sym-bol | Name | Definition |
|---|---|---|
| ☞ | fillIn | This item, in a list entry, allows the user to enter a fill in value that is not present in the set of presented choices. |

# Appendix A. References

This appendix contains the list of related resources and supporting documents used in creating this KNART.

# List of References

## Related Resources

[CCWP] *Cardiology: Admission Orders - Heart Failure Clinical Content White Paper*

[CSD] *Cardiology: Admission Orders - Heart Failure Conceptual Structure Document*

[KVRpt] *Cardiology: Admission Orders - Heart Failure KNART Validation Report*

## Supporting Evidence

[Yancy 2017] *Yancy, Clyde W, Mariell Jessup, Biykem Bozkurt, Javed Butler, Donald E Casey, Monica M Colvin, Mark H Drazner, et al. 2017. "2017 ACC/AHA/HFSA Focused Update of the 2013 ACCF/AHA Guideline for the Management of Heart Failure: A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines and the Heart Failure Society of America." Journal of Cardiac Failure 23 (8): 628–51. doi:10.1016/j.cardfail.2017.04.014* (link [https://doi.org/10.1016/j.cardfail.2017.04.014])

[NLM 2017a] *BIDIL- hydralazine hydrochloride and isosorbide dinitrate tablet, film coated [Internet].: National Library of Medicine; 2017. Available from: https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=e1e63cd5-d1e4-4af5-bad5-1ad41ea46b00.* (link [https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=e1e63cd5-d1e4-4af5-bad5-1ad41ea46b00])

[NLM 2017b] *BUMETANIDE- bumetanide injection, solution [Internet].: National Library of Medicine; 2017. Available from: https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=e71daa68-2744-47da-64b4-0a725c2e8457.* (link [https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=e71daa68-2744-47da-64b4-0a725c2e8457])

[NLM 2017c] *BUMETANIDE- bumetanide tablet [Internet].: National Library of Medicine; 2017. Available from: https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=04236576-01c4-43a6-ac8a-60e23b5dc692.* (link [https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=04236576-01c4-43a6-ac8a-60e23b5dc692])

[NLM 2017d] *CARVEDILOL- carvedilol tablet, coated [Internet].: National Library of Medicine; 2017. Available from: https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=7d485d38-5d43-4a54-bc63-82734035c66a.* (link [https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=7d485d38-5d43-4a54-bc63-82734035c66a])

[NLM 2017e] *DIGOXIN- digoxin tablet [Internet].: National Library of Medicine; 2017. Available from: https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=dfac7f13-28be-423d-9389-9089da29da17.* (link [https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=dfac7f13-28be-423d-9389-9089da29da17])

[NLM 2017f] *ENALAPRIL MALEATE- enalapril maleate tablet [Internet].: National Library of Medicine; 2017. Available from: https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=ac0289a6-9533-4f8c-b46c-506dce1b90b5.* (link [https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=ac0289a6-9533-4f8c-b46c-506dce1b90b5])

[NLM 2017g] *ENTRESTO- sacubitril and valsartan tablet, film coated [Internet].: National Library of Medicine; 2017. Available from: https://dailymed.nlm.nih.gov/daily-med/drugInfo.cfm?setid=000dc81d-ab91-450c-8eae-8eb74e72296f.* (link [https://dailymed.nlm.nih.gov/dai-lymed/drugInfo.cfm?setid=000dc81d-ab91-450c-8eae-8eb74e72296f])

[NLM 2017h] *EPLERENONE- eplerenone tablet [Internet].: National Library of Medicine; 2017. Available from: https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=59e27acd-3877-babf-341b-b65968a8a607.* (link [https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=59e27acd-3877-babf-341b-b65968a8a607])

[NLM 2017i] *FUROSEMIDE - furosemide injection, solution [Internet].: National Library of Medicine; 2017. Available from: https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=c71371a7-75c5-45b8-b762-8d782d4c71bc.* (link [https://dailymed.nlm.nih.gov/daily-med/drugInfo.cfm?setid=c71371a7-75c5-45b8-b762-8d782d4c71bc])

[NLM 2017j] *LASIX- furosemide tablet [Internet].: National Library of Medicine; 2017. Available from: https://daily-med.nlm.nih.gov/dailymed/drugInfo.cfm?setid=eadfe464-720b-4dcd-a0d8-45dba706bd33.* (link [https://dai-lymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=eadfe464-720b-4dcd-a0d8-45dba706bd33])

[NLM 2017k] *LISINOPRIL 2.5MG- lisinopril tablet; LISINOPRIL 5MG- lisinopril tablet; LISINO-PRIL 10MG- lisinopril tablet; LISINOPRIL 20MG- lisinopril tablet; LISINOPRIL 40MG- lisino-pril tablet [Internet].: National Library of Medicine; 2017. Available from: https://daily-med.nlm.nih.gov/dailymed/drugInfo.cfm?setid=09231502-068b-4439-8238-81c7e43a269c.* (link [https:// dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=09231502-068b-4439-8238-81c7e43a269c])

[NLM 2017l] *LOSARTAN- losartan potassium tablet, film coated [Internet].: National Library of Medicine; 2017. Available from: https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=3cdcf8c-c-4964-4c53-e054-00144ff88e88.* (link [https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=3cd-cf8cc-4964-4c53-e054-00144ff88e88])

[NLM 2017m] *SPIRONOLACTONE- spironolactone tablet; SPIRONOLACTONE- spironolactone tablet, film coated [Internet].: National Library of Medicine; 2017. Available from: https://daily-med.nlm.nih.gov/dailymed/drugInfo.cfm?setid=c23b6b9b-aec3-48a8-a518-76e4097f6479.* (link [https://dai-lymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=c23b6b9b-aec3-48a8-a518-76e4097f6479])

[NLM 2017n] *TOPROL XL- metoprolol succinate tablet, extended release [Internet].: National Library of Medicine; 2017. Available from: https://dailymed.nlm.nih.gov/daily-med/drugInfo.cfm?setid=4a5762c6-d7a2-4e4c-10b7-8832b36fa5f4.* (link [https://dailymed.nlm.nih.gov/dai-lymed/drugInfo.cfm?setid=4a5762c6-d7a2-4e4c-10b7-8832b36fa5f4])

[NLM 2017o] *VALSARTAN- valsartan tablet [Internet].: National Library of Medicine; 2017. Available from: https://dailymed.nlm.nih.gov/dailymed/drugIn-fo.cfm?setid=0135bbe4-0b38-4e92-8d7c-a4da3b6a544e.* (link [https://dailymed.nlm.nih.gov/daily-med/drugInfo.cfm?setid=0135bbe4-0b38-4e92-8d7c-a4da3b6a544e])

[Yancy 2013] *Clyde W. Yancy, Mariell Jessup, Biykem Bozkurt, Javed Butler, Donald E. Casey, Mark H. Drazn-er, et al. 2013. "2013 ACCF/AHA Guideline for the Management of Heart Failure: A Report of the American College of Cardiology Foundation/American Heart Association Task Force on Practice Guide-lines." Circulation 128 (16): e240–327. doi:10.1161/CIR.0b013e31829e8776* (link [https://doi.org/10.1161/ CIR.0b013e31829e8776])