

Neurosurgery: Radiculopathy (Lumbar/Thoracic) Documentation Template

Documentation Tem- plate: Conceptual Structure

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Department of Veterans Affairs (VA)



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

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

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Preface

Table 1. Revision History

Date	Life Cycle Event
March 29, 2018	Published
March 29, 2018	Reviewed
August 10, 2017	Created
August 29, 2017	Pre-published

Table 2. Clinical White Paper Contributors

Name	Role	Affiliation
Adamson David (Cory), MD	Author	Physician, Atlanta, GA
Rachlin Jacob, MD	Author	Chief of Neurosurgery, VA Boston Health Care System, Boston, MA
King Joseph, MD	Author	Physician, Surgical Service, VA New England Healthcare System, West Haven, CT

Table 3. Artifact Identifier

Domain	Artifact ID	Name
urn:va.gov:kbs:knart:artifact:r1	b6be-de46-4000-506c-a616-256f35b-d0cf2	B40

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	Adult						
ClinicalVenue	Outpatient						
ClinicalFocus	Referral to Neurosurgery for Radiculopathy (Lumbar/Thoracic).						
TargetUser	Primary Care Provider						
TargetUser	Emergency Medicine Provider		SNOMED CT	225728007	Accident and Emergency department (environment)		
TargetUser	Anesthesiology Provider		SNOMED CT	1311000205109	Anesthesiology department (environment)		
TargetUser	Pain Clinic Provider		SNOMED CT	702897005	Pain clinic (environment)		
TargetUser	Physical Therapy Provider		SNOMED CT	7a8d82a5-6876-4b44-985c-6d6d483072c0	Physical therapy department (environment)		
WorkflowTask	Referral to Neurosurgery for Radiculopathy (Lumbar/Thoracic).						

Models

Table 5. Model References

Referenced Model	Description
urn:solor.io:anf-model:1.0	VA Analysis Normal Form Model

Chapter 1. External Data Definitions

Definitions

Table 1.1. lumbarThoracicSpineMRI

Expression: type=elm:Query
Annotation: Lumbar/Thoracic Spine MRI
Codes: elm:value[elm:Code]: [398166005 Performed (qualifier value)]elm:value[elm:Code]: [700319007 Magnetic resonance imaging of thoracic and lumbar spine (procedure)]

Table 1.2. lumbarThoracicSpineMRIInterpretation

Expression: type=elm:Query
Annotation: Lumbar/Thoracic Spine MRI Interpretation
Codes: elm:value[elm:Code]: [398166005 Performed (qualifier value)]elm:value[elm:Code]: [[370851004 Evaluation of diagnostic study results (procedure)] ->(363702006 Has focus (attribute))>[700319007 Magnetic resonance imaging of thoracic and lumbar spine (procedure)]]

Table 1.3. lumbarThoracicSpineCTMyelogram

Expression: type=elm:Query
Annotation: Lumbar/Thoracic Spine CT Myelogram
Codes: elm:value[elm:Code]: [398166005 Performed (qualifier value)]elm:value[elm:Code]: [42182e51-7e8b-4550-9a72-99b6987a0f12 Computed tomography myelogram of thoracolumbar region (procedure)]

Table 1.4. lumbarThoracicSpineCTMyelogramInterpretation

Expression: type=elm:Query
Annotation: Lumbar/Thoracic Spine CT Myelogram Interpretation
Codes: elm:value[elm:Code]: [398166005 Performed (qualifier value)]elm:value[elm:Code]: [[370851004 Evaluation of diagnostic study results (procedure)] ->(363702006 Has focus (attribute))>[182e51-7e8b-4550-9a72-99b6987a0f12 Computed tomography myelogram of thoracolumbar region (procedure)]]

Table 1.5. lumbarThoracicSpineCT

Expression: type=elm:Query
Annotation: Lumbar/Thoracic Spine CT
Codes: elm:value[elm:Code]: [398166005 Performed (qualifier value)]elm:value[elm:Code]: [702487007 Computed tomography of thoracic and lumbar spine (procedure)]

Table 1.6. lumbarThoracicSpineCTInterpretation

Expression: type=elm:Query
Annotation: Lumbar/Thoracic Spine CT Interpretation
Codes: elm:value[elm:Code]: [398166005 Performed (qualifier value)]elm:value[elm:Code]: [[370851004 Evaluation of diagnostic study results (procedure)] ->(363702006 Has focus (attribute))>[702487007 Computed tomography of thoracic and lumbar spine (procedure)]]

Chapter 2. Chief Complaint

❖ What are the patient's chief complaints?

	<p>◆ prompt: Complaint</p> <p>response: Code (Multiple)</p> <p>response range: EnumerationConstraint (List)</p> <p>item: Pain</p> <p>item: Numbness</p> <p>item: Weakness</p> <p>☞ item: Other</p> <p>Location of symptoms.</p>
	<p>◆ prompt: Where are these symptoms occurring?</p> <p>response: Code (Multiple)</p> <p>response range: EnumerationConstraint (List)</p> <p>item: Low Back Pain([a997cc03-3e99-40e-b-833a-6374c7750a3a Observation procedure (procedure)] ->(363702006 Has focus (attribute))->[279039007 Low back pain (finding)])</p> <p>item: Left Leg Pain([a997cc03-3e99-40e-b-833a-6374c7750a3a Observation procedure (procedure)] ->(363702006 Has focus (attribute))->[10601006 Pain in lower limb (finding)]- ->(272741003 Laterality (attribute))->[7771000 Left (qualifier value)];)</p> <p>item: Right Leg Pain([a997cc03-3e99-40e-b-833a-6374c7750a3a Observation procedure (procedure)] ->(363702006 Has focus (attribute))->[10601006 Pain in lower limb (finding)]- ->(272741003 Laterality (attribute))->[24028007 Right (qualifier value)];)</p> <p>item: Low Back Numbness([a997cc03-3e99-40e-b-833a-6374c7750a3a Observation procedure (procedure)] ->(363702006 Has focus (attribute))->[44077006 Numbness (finding)]- ->(363698007 Finding site (attribute))->[113182001 Skin structure of lower back (body structure)];)</p> <p>item: Left Leg Numbness([a997cc03-3e99-40e-b-833a-6374c7750a3a Observation procedure (procedure)] ->(363702006 Has focus (attribute))->[44077006 Numbness (finding)]- ->(363698007 Finding site (attribute))->[371304004 Skin structure of lower limb (body structure)]- ->(272741003 Lateral-</p>

ity (attribute))>[7771000 |Left (qualifier value)];)

item: Right Leg Numbness([a997cc03-3e99-40e-b-833a-6374c7750a3a |Observation procedure (procedure)] ->(363702006 |Has focus (attribute))>[44077006 | Numbness (finding)]- ->(363698007 |Finding site (attribute))>[371304004 |Skin structure of lower limb (body structure)]- ->(272741003 |Laterality (attribute))>[24028007 |Right (qualifier value)];)

item: Low Back Weakness([a997cc03-3e99-40e-b-833a-6374c7750a3a |Observation procedure (procedure)] ->(363702006 |Has focus (attribute))>[13791008 |Asthenia (finding)]- ->(363698007 |Finding site (attribute))>[37822005 |Lower back structure (body structure)];)

item: Left Leg Weakness([a997cc03-3e99-40e-b-833a-6374c7750a3a |Observation procedure (procedure)] ->(363702006 |Has focus (attribute))>[13791008 |Asthenia (finding)]- ->(363698007 |Finding site (attribute))>[371304004 |Skin structure of lower limb (body structure)]- ->(272741003 |Laterality (attribute))>[7771000 |Left (qualifier value)];)

item: Right Leg Weakness([a997cc03-3e99-40e-b-833a-6374c7750a3a |Observation procedure (procedure)] ->(363702006 |Has focus (attribute))>[13791008 |Asthenia (finding)]- ->(363698007 |Finding site (attribute))>[371304004 |Skin structure of lower limb (body structure)]- ->(272741003 |Laterality (attribute))>[24028007 |Right (qualifier value)];)

☞ item: Other

Details

Please provide details regarding the character of the pain (e.g., burning, shooting, aching, electric, jabbing, etc.).

prompt: Pain characteristics

response: Code (Multiple)

response range: EnumerationConstraint (List)

item: burning([a997cc03-3e99-40e-b-833a-6374c7750a3a |Observation procedure (procedure)] ->(363702006 |Has focus (attribute))>[36349006 |Burning pain (finding)])

item: shooting([a997cc03-3e99-40e-b-833a-6374c7750a3a |Observation procedure (procedure)] ->(363702006 |Has focus (attribute))>[36349006 |Shooting pain (finding)])

	<p> dure (procedure)] ->(363702006 Has focus (attribute))>[49575005 Shooting pain (finding)]) item: aching([a997cc03-3e99-40e-b-833a-6374c7750a3a Observation procedure (procedure)] ->(363702006 Has focus (attribute))>[27635008 Aching pain (finding)]) item: electric([a997cc03-3e99-40e-b-833a-6374c7750a3a Observation procedure (procedure)] ->(363702006 Has focus (attribute))>[723316007 Electric shock type pain (finding)]) item: jabbing([a997cc03-3e99-40e-b-833a-6374c7750a3a Observation procedure (procedure)] ->(363702006 Has focus (attribute))>[55145008 Stabbing pain (finding)]) ☞ item: Other </p>
	<p>Details</p>
	<p>Duration of symptoms</p>
	<p> prompt: What is the duration of symptoms? response: Code (Multiple) response range: EnumerationConstraint (List) item: Acute (less than 2 weeks)([72274001 Nerve root disorder (disorder)] ->(363698007 Finding site (attribute))>[737530005 Structure of thoracolumbar spinal cord nerve root (body structure)] ->(263502005 Clinical course (attribute))>[373933003 Acute onset (qualifier value)]) item: Subacute (less than 3 months)([72274001 Nerve root disorder (disorder)] ->(363698007 Finding site (attribute))>[737530005 Structure of thoracolumbar spinal cord nerve root (body structure)] ->(263502005 Clinical course (attribute))>[373935005 Subacute onset (qualifier value)]) item: Chronic (greater than 3 months)([72274001 Nerve root disorder (disorder)] ->(363698007 Finding site (attribute))>[737530005 Structure of thoracolumbar spinal cord nerve root (body structure)] ->(263502005 Clinical course (attribute))>[90734009 Chronic (qualifier value)]) </p>

Chapter 3. Prior Conservative Therapies

Which conservative therapies have been tried?

Medications	
<input type="checkbox"/> ❖	<p>Non-steroidal anti-inflammatory drug (NSAIDs)</p> <p>Represented Concepts: [416118004 Administration (procedure)] ->(260686004 Method (attribute))->[129445006 Administration - action (qualifier value)] ->(363701004 Direct substance (attribute))->[16403005 Non-steroidal anti-inflammatory agent (product)]</p> <p><input type="checkbox"/> prompt: NSAID response: Code (Single)</p> <p><input type="checkbox"/> prompt: Dose response: PhysicalQuantity (Single)</p> <p><input type="checkbox"/> prompt: Date Started response: Timestamp (Single)</p> <p><input type="checkbox"/> prompt: Date Ended response: Timestamp (Single)</p> <p><input type="checkbox"/></p> <p>actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]</p> <p>"statementType:Precoordinated Expression topic:Ppstcoordinated Expression , timing.lowerBound: 1 , timing.includeLowerBound: TRUE , timing.includeLowerBound: FALSE"</p> <p>(Codes: 398166005 Performed (qualifier value) [416118004 Administration (procedure)] ->(260686004 Method (attribute))->[129445006 Administration - action (qualifier value)] ->(363701004 Direct substance (attribute))->[16403005 Non-steroidal anti-inflammatory agent (product)])</p>
<input type="checkbox"/> ❖	<p>Opioids</p> <p>Represented Concepts: [416118004 Administration (procedure)] ->(260686004 Method (attribute))->[129445006 Administration - action (qualifier value)] ->(363701004 Direct substance (attribute))->[360204007 Opiate (product)]</p> <p><input type="checkbox"/> prompt: Opioid Medication response: Code (Single)</p> <p><input type="checkbox"/> prompt: Dose response: PhysicalQuantity (Single)</p> <p><input type="checkbox"/> prompt: Date Started response: Timestamp (Single)</p>

	<p><input type="checkbox"/> prompt: Date Ended response: Timestamp (Single)</p> <p><input type="checkbox"/></p> <p>actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]</p> <p>"statementType:Precoordinated Expression topic:Postcoordinated Expression , timing.lowerBound: 1 , timing.includeLowerBound: TRUE , timing.includeLowerBound: FALSE"</p> <p>(Codes: 398166005 Performed (qualifier value) [416118004 Administration (procedure)] ->(260686004 Method (attribute))->[129445006 Administration - action (qualifier value)] ->(363701004 Direct substance (attribute))->[360204007 Opiate (product)])</p>
<input type="checkbox"/> ❖ Antiepileptics	<p>Represented Concepts: [416118004 Administration (procedure)] ->(260686004 Method (attribute))->[129445006 Administration - action (qualifier value)] ->(363701004 Direct substance (attribute))->[63094006 Anticonvulsant (product)]</p> <p><input type="checkbox"/> prompt: Antiepileptic Medication response: Code (Single)</p> <p><input type="checkbox"/> prompt: Dose response: PhysicalQuantity (Single)</p> <p><input type="checkbox"/> prompt: Date Started response: Timestamp (Single)</p> <p><input type="checkbox"/> prompt: Date Ended response: Timestamp (Single)</p> <p><input type="checkbox"/></p> <p>actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]</p> <p>"statementType:Precoordinated Expression topic:Postcoordinated Expression , timing.lowerBound: 1 , timing.includeLowerBound: TRUE , timing.includeLowerBound: FALSE"</p> <p>(Codes: 398166005 Performed (qualifier value) [416118004 Administration (procedure)] ->(260686004 Method (attribute))->[129445006 Administration - action (qualifier value)] ->(363701004 Direct substance (attribute))->[63094006 Anticonvulsant (product)])</p>
<input type="checkbox"/> ❖ Tricyclic antidepressants	<p>Represented Concepts: [416118004 Administration (procedure)] ->(260686004 Method (attribute))->[129445006 Administration - action (qualifier value)] ->(363701004 Direct substance (attribute))->[63094006 Anticonvulsant (product)]</p> <p><input type="checkbox"/> prompt: Tricyclic antidepressant medication</p>

	<div> <div> response: Code (Single) <input type="checkbox"/> prompt: Dose response: PhysicalQuantity (Single) <input type="checkbox"/> prompt: Date Started response: Timestamp (Single) <input type="checkbox"/> prompt: Date Ended response: Timestamp (Single) </div> <div> <input type="checkbox"/> </div> <div> actionSentence[type=elm:Instance, classType=anf:ClinicalStatement] <div> "statementType:Precoordinated Expression topic:Postcoordinated Expression , timing.lowerBound: 1 , timing.includeLowerBound: TRUE , timing.includeLowerBound: FALSE" (Codes: 398166005 Performed (qualifier value) [416118004 Administration (procedure)] ->(260686004 Method (attribute))->[129445006 Administration - action (qualifier value)] ->(363701004 Direct substance (attribute))->[63094006 Anticonvulsant (product)]) </div> </div> </div> <div> <input type="checkbox"/> ❖ Other Medications </div> <div> <input type="checkbox"/> prompt: Other Medication response: Code (Single) <input type="checkbox"/> prompt: Dose response: PhysicalQuantity (Single) <input type="checkbox"/> prompt: Date Started response: Timestamp (Single) <input type="checkbox"/> prompt: Date Ended response: Timestamp (Single) </div>
Other therapies	<div> <input type="checkbox"/> Occupational Therapy </div> <div> Represented Concepts: 84478008 Occupational therapy (regime/therapy) </div> <div> <input type="checkbox"/> prompt: Therapy Summary response: String (Single) <input type="checkbox"/> prompt: Date started response: Timestamp (Single) <input type="checkbox"/> prompt: Date ended response: Timestamp (Single) <input type="checkbox"/> prompt: Visits response: Integer (Single) <input type="checkbox"/> prompt: Outcome </div>

	<p>response: String (Single)</p> <p><input type="checkbox"/></p> <p>actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]</p> <p>"statementType:Precoordinated Expression topic:Precoordinated Expression , timing.lowerBound: 1 , timing.includeLowerBound: TRUE , timing.includeLowerBound: FALSE"</p> <p>(Codes: 398166005 Performed (qualifier value) 84478008 Occupational therapy (regime/therapy))</p>
<input type="checkbox"/>	<p>Acupuncture</p> <hr/> <p>Represented Concepts: 44868003 Acupuncture (procedure) </p> <hr/> <p><input type="checkbox"/> prompt: Therapy Summary response: String (Single)</p> <p><input type="checkbox"/> prompt: Date started response: Timestamp (Single)</p> <p><input type="checkbox"/> prompt: Date ended response: Timestamp (Single)</p> <p><input type="checkbox"/> prompt: Visits response: Integer (Single)</p> <p><input type="checkbox"/> prompt: Outcome response: String (Single)</p> <p><input type="checkbox"/></p> <p>actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]</p> <p>"statementType:Precoordinated Expression topic:Precoordinated Expression , timing.lowerBound: 1 , timing.includeLowerBound: TRUE , timing.includeLowerBound: FALSE"</p> <p>(Codes: 398166005 Performed (qualifier value) 44868003 Acupuncture (procedure))</p>
<input type="checkbox"/>	<p>Spinal Manipulation</p> <hr/> <p>Represented Concepts: 44275008 Manipulation of spine (procedure) </p> <hr/> <p><input type="checkbox"/> prompt: Therapy Summary response: String (Single)</p> <p><input type="checkbox"/> prompt: Date started response: Timestamp (Single)</p> <p><input type="checkbox"/> prompt: Date ended response: Timestamp (Single)</p> <p><input type="checkbox"/> prompt: Visits response: Integer (Single)</p> <p><input type="checkbox"/> prompt: Outcome response: String (Single)</p>

☐

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

"statementType:Precoordinated Expression topic:Precoordinated Expression , timing.lowerBound: 1 , timing.includeLowerBound: TRUE , timing.includeLowerBound: FALSE"

(Codes: 398166005 |Performed (qualifier value)| 44275008 |Manipulation of spine (procedure)|)

☐ Cognitive behavioral therapy

Represented Concepts: 304891004 |Cognitive - behavior therapy (regime/therapy)|

- ☐ prompt: Therapy Summary
response: String (Single)
- ☐ prompt: Date started
response: Timestamp (Single)
- ☐ prompt: Date ended
response: Timestamp (Single)
- ☐ prompt: Visits
response: Integer (Single)
- ☐ prompt: Outcome
response: String (Single)

☐

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

"statementType:Precoordinated Expression topic:Precoordinated Expression , timing.lowerBound: 1 , timing.includeLowerBound: TRUE , timing.includeLowerBound: FALSE"

(Codes: 398166005 |Performed (qualifier value)| 304891004 |Cognitive - behavior therapy (regime/therapy)|)

☐ Pain clinic

Represented Concepts: [a997cc03-3e99-40eb-833a-6374c7750a3a |Observation procedure (procedure)] ->(363702006 |Has focus (attribute))->[185248009 |Seen in pain clinic (finding)]

- ☐ prompt: Therapy Summary
response: String (Single)
- ☐ prompt: Date started
response: Timestamp (Single)
- ☐ prompt: Date ended
response: Timestamp (Single)
- ☐ prompt: Visits
response: Integer (Single)

	<div> <input type="checkbox"/> prompt: Outcome response: String (Single) </div> <div> <input type="checkbox"/> </div> <div> actionSentence[type=elm:Instance, classType=anf:ClinicalStatement] <div> "statementType:Precoordinated Expression topic:Postcoordinated Expression , timing.lowerBound: 1 , timing.includeLowerBound: TRUE , timing.includeLowerBound: FALSE" <div> (Codes: 398166005 Performed (qualifier value) [a997cc03-3e99-40e-b-833a-6374c7750a3a Observation procedure (procedure)] ->(363702006 Has focus (attribute))->[185248009 Seen in pain clinic (finding)]) </div> </div> </div>
	<div> <input type="checkbox"/> Selective nerve root blocks </div> <div> Represented Concepts: 231043002 Local anesthetic block on spinal nerve root (procedure) </div> <div> <div> <input type="checkbox"/> prompt: Therapy Summary response: String (Single) </div> <div> <input type="checkbox"/> prompt: Date started response: Timestamp (Single) </div> <div> <input type="checkbox"/> prompt: Date ended response: Timestamp (Single) </div> <div> <input type="checkbox"/> prompt: Visits response: Integer (Single) </div> <div> <input type="checkbox"/> prompt: Outcome response: String (Single) </div> </div> <div> <input type="checkbox"/> </div> <div> actionSentence[type=elm:Instance, classType=anf:ClinicalStatement] <div> "statementType:Precoordinated Expression topic:Precoordinated Expression , timing.lowerBound: 1 , timing.includeLowerBound: TRUE , timing.includeLowerBound: FALSE" <div> (Codes: 398166005 Performed (qualifier value) 231043002 Local anesthetic block on spinal nerve root (procedure)) </div> </div> </div>
	<div> <input type="checkbox"/> Epidural steroid injections </div> <div> Represented Concepts: 303611006 Epidural steroid injection (procedure) </div> <div> <div> <input type="checkbox"/> prompt: Therapy Summary response: String (Single) </div> <div> <input type="checkbox"/> prompt: Date started response: Timestamp (Single) </div> <div> <input type="checkbox"/> prompt: Date ended </div> </div>

		<p>response: Timestamp (Single)</p> <p><input type="checkbox"/> prompt: Visits</p> <p>response: Integer (Single)</p> <p><input type="checkbox"/> prompt: Outcome</p> <p>response: String (Single)</p>
	<input type="checkbox"/>	<p>actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]</p> <p>"statementType:Precoordinated Expression topic:Precoordinated Expression , timing.lowerBound: 1 , timing.includeLowerBound: TRUE , timing.includeLowerBound: FALSE"</p> <p>(Codes: 398166005 Performed (qualifier value) 303611006 Epidural steroid injection (procedure))</p>
	<input type="checkbox"/> ❖ Other	<p><input type="checkbox"/> prompt: Therapy?</p> <p>response: String (Single)</p> <p><input type="checkbox"/> prompt: Therapy Summary</p> <p>response: String (Single)</p> <p><input type="checkbox"/> prompt: Date started</p> <p>response: Timestamp (Single)</p> <p><input type="checkbox"/> prompt: Date ended</p> <p>response: Timestamp (Single)</p> <p><input type="checkbox"/> prompt: Visits</p> <p>response: Integer (Single)</p> <p><input type="checkbox"/> prompt: Outcome</p> <p>response: String (Single)</p>

Chapter 4. Medical History

Select items that apply from the patient's medical history.

☐ Chronic pain

Represented Concepts: [a997cc03-3e99-40eb-833a-6374c7750a3a |Observation procedure (procedure)]- -(363702006 |Has focus (attribute))-[82423001 |Chronic pain (finding)]

☐ prompt: Summary of chronic pain history

response: String (Single)

☐ prompt: Consult date

response: Timestamp (Single)

☐ prompt: Consult results

response: String (Single)

☐ prompt: Current status

response: String (Single)

☐

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

"statementType:Precoordinated Expression topic:Postcoordinated Expression , timing.lowerBound: 1 , timing.includeLowerBound: TRUE , timing.includeLowerBound: FALSE"

(Codes: 398166005 |Performed (qualifier value)| [a997cc03-3e99-40eb-833a-6374c7750a3a |Observation procedure (procedure)]- -(363702006 |Has focus (attribute))-[82423001 |Chronic pain (finding)])

☐ Post-traumatic stress disorder

Represented Concepts: [a997cc03-3e99-40eb-833a-6374c7750a3a |Observation procedure (procedure)] -(363702006 |Has focus (attribute))-[47505003 |Posttraumatic stress disorder (disorder)]

☐ prompt: Summary of post-traumatic stress disorder history

response: String (Single)

☐ prompt: Consult date

response: Timestamp (Single)

☐ prompt: Consult results

response: String (Single)

☐ prompt: Current status

response: String (Single)

☐

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

"statementType:Precoordinated Expression topic:Postcoordinated Expression , timing.lowerBound: 1 , timing.includeLowerBound: TRUE , timing.includeLowerBound: FALSE"

(Codes: 398166005 |Performed (qualifier value)| [a997cc03-3e99-40eb-833a-6374c7750a3a |Observation procedure

	(procedure)] -(363702006 Has focus (attribute))->[47505003 Posttraumatic stress disorder (disorder)]
<input type="checkbox"/> Anxiety	<p>Represented Concepts: [a997cc03-3e99-40eb-833a-6374c7750a3a Observation procedure (procedure)] -(363702006 Has focus (attribute))->[48694002 Anxiety (finding)]</p> <p> <input type="checkbox"/> prompt: Summary anxiety history response: String (Single) <input type="checkbox"/> prompt: Consult date response: Timestamp (Single) <input type="checkbox"/> prompt: Consult results response: String (Single) <input type="checkbox"/> prompt: Current status response: String (Single) </p> <p><input type="checkbox"/></p> <p>actionSentence[type=elm.Instance, classType=anf.ClinicalStatement]</p> <p>"statementType:Precoordinated Expression topic:Postcoordinated Expression , timing.lowerBound: 1 , timing.includeLowerBound: TRUE , timing.includeLowerBound: FALSE"</p> <p>(Codes: 398166005 Performed (qualifier value) [a997cc03-3e99-40eb-833a-6374c7750a3a Observation procedure (procedure)] -(363702006 Has focus (attribute))->[48694002 Anxiety (finding)])</p>
<input type="checkbox"/> Depression	<p>Represented Concepts: [a997cc03-3e99-40eb-833a-6374c7750a3a Observation procedure (procedure)] -(363702006 Has focus (attribute))->[35489007 Depressive disorder (disorder)]</p> <p> <input type="checkbox"/> prompt: Summary depression history response: String (Single) <input type="checkbox"/> prompt: Consult date response: Timestamp (Single) <input type="checkbox"/> prompt: Consult results response: String (Single) <input type="checkbox"/> prompt: Current status response: String (Single) </p> <p><input type="checkbox"/></p> <p>actionSentence[type=elm.Instance, classType=anf.ClinicalStatement]</p> <p>"statementType:Precoordinated Expression topic:Postcoordinated Expression , timing.lowerBound: 1 , timing.includeLowerBound: TRUE , timing.includeLowerBound: FALSE"</p> <p>(Codes: 398166005 Performed (qualifier value) [a997cc03-3e99-40eb-833a-6374c7750a3a Observation procedure (procedure)] -(363702006 Has focus (attribute))->[35489007 Depressive disorder (disorder)])</p>
<input type="checkbox"/> ❖ Other mental health conditions	

	<p><input type="checkbox"/> prompt: Other mental health conditions response: String (Single)</p> <p><input type="checkbox"/> prompt: History response: String (Single)</p> <p><input type="checkbox"/> prompt: Consult date response: Timestamp (Single)</p> <p><input type="checkbox"/> prompt: Results response: String (Single)</p> <p><input type="checkbox"/> prompt: Current status response: String (Single)</p>
<input type="checkbox"/> ❖	Oncological conditions
	<p><input type="checkbox"/> prompt: Summary response: String (Single)</p> <p><input type="checkbox"/> prompt: Consult date response: Timestamp (Single)</p> <p><input type="checkbox"/> prompt: Results response: String (Single)</p> <p><input type="checkbox"/> prompt: Current status response: String (Single)</p>
<input type="checkbox"/>	Obesity
	<p><input type="checkbox"/> prompt: Body Mass Index (BMI) response: PhysicalQuantity (Single)</p> <p>responseBinding: Property ("bmi")</p> <p><input type="checkbox"/></p> <p>actionSentence[type=elm.Instance, classType=anf.ClinicalStatement]</p> <p>"statementType:Precoordinated Expression topic:Postcoordinated Expression , result.lowerBound: bmi , result.upperBound: bmi , result.includeLowerBound: TRUE , result.includeUpperBound: TRUE"</p> <p>(Codes: 398166005 Performed (qualifier value) [a997c-c03-3e99-40eb-833a-6374c7750a3a Observation procedure (procedure)]- -(363702006 Has focus (attribute)))->[301331008 Finding of body mass index (finding)])</p>
<input type="checkbox"/> ❖	Cardiovascular conditions
	<p><input type="checkbox"/> prompt: Summary response: String (Single)</p> <p><input type="checkbox"/> prompt: Consult date response: Timestamp (Single)</p> <p><input type="checkbox"/> prompt: Results response: String (Single)</p> <p><input type="checkbox"/> prompt: Current status</p>

| response: String (Single)

Chapter 5. Surgical History

Select items that apply from the patient's surgical history.

❖	Spinal surgery
	Represented Concepts: 392236004 Operative procedure on spinal structure (procedure)
	prompt: Summary
	response: String (Single)
	prompt: Date
	response: Timestamp (Single)
	actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]
	"statementType:Precoordinated Expression topic:Precoordinated Expression , timing.lowerBound: 1 , timing.includeLowerBound: TRUE , timing.includeLowerBound: FALSE"
	(Codes: 398166005 Performed (qualifier value) 392236004 Operative procedure on spinal structure (procedure))
❖	Other prior surgeries
	prompt: Summary
	response: String (Single)
	prompt: Date
	response: Timestamp (Single)

Chapter 6. Social History

Select items that apply from the patient's social history.

Alcohol use
Represented Concepts: [a997cc03-3e99-40eb-833a-6374c7750a3a Observation procedure (procedure)] ->(363702006 Has focus (attribute))->[704197006 Admits alcohol use (finding)]
<div><div>prompt: Summary</div><div>response: String (Single)</div><div>prompt: Current status</div><div>response: String (Single)</div><div>prompt: Applicable dates</div><div>response: Timestamp (Multiple)</div></div>
<div>actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]</div> <div>"statementType:Precoordinated Expression topic:Postcoordinated Expression , timing.lowerBound: 1 , timing.includeLowerBound: TRUE , timing.includeLowerBound: FALSE"</div> <div>(Codes: 398166005 Performed (qualifier value) [a997cc03-3e99-40eb-833a-6374c7750a3a Observation procedure (procedure)] ->(363702006 Has focus (attribute))->[704197006 Admits alcohol use (finding)])</div>
Alcohol abuse
Represented Concepts: [a997cc03-3e99-40eb-833a-6374c7750a3a Observation procedure (procedure)] ->(363702006 Has focus (attribute))->[15167005 Alcohol abuse (disorder)]
<div><div>prompt: Summary</div><div>response: String (Single)</div><div>prompt: Current status</div><div>response: String (Single)</div><div>prompt: Applicable dates</div><div>response: Timestamp (Multiple)</div></div>
<div>actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]</div> <div>"statementType:Precoordinated Expression topic:Postcoordinated Expression , timing.lowerBound: 1 , timing.includeLowerBound: TRUE , timing.includeLowerBound: FALSE"</div> <div>(Codes: 398166005 Performed (qualifier value) [a997cc03-3e99-40eb-833a-6374c7750a3a Observation procedure (procedure)] ->(363702006 Has focus (attribute))->[15167005 Alcohol abuse (disorder)])</div>
Rehabilitation
Represented Concepts: 52052004 Rehabilitation therapy (regime/therapy)
<div><div>prompt: Summary</div></div>

	<p>response: String (Single)</p> <p>prompt: Current status</p> <p>response: String (Single)</p> <p>prompt: Applicable dates</p> <p>response: Timestamp (Multiple)</p>
	<p>actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]</p> <p>"statementType:Precoordinated Expression topic:Precoordinated Expression , timing.lowerBound: 1 , timing.includeLowerBound: TRUE , timing.includeLowerBound: FALSE"</p> <p>(Codes: 398166005 Performed (qualifier value) 52052004 Rehabilitation therapy (regime/therapy))</p>
	Detoxification
	Represented Concepts: 67516001 Detoxification therapy (regime/therapy)
	<p>prompt: Summary</p> <p>response: String (Single)</p> <p>prompt: Current status</p> <p>response: String (Single)</p> <p>prompt: Applicable dates</p> <p>response: Timestamp (Multiple)</p>
	<p>actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]</p> <p>"statementType:Precoordinated Expression topic:Precoordinated Expression , timing.lowerBound: 1 , timing.includeLowerBound: TRUE , timing.includeLowerBound: FALSE"</p> <p>(Codes: 398166005 Performed (qualifier value) 67516001 Detoxification therapy (regime/therapy))</p>
	Current or former tobacco user
	Represented Concepts: [a997cc03-3e99-40eb-833a-6374c7750a3a Observation procedure (procedure)] ->(363702006 Has focus (attribute))->[110483000 Tobacco user (finding)]
	<p>prompt: Summary</p> <p>response: String (Single)</p> <p>prompt: Current status</p> <p>response: String (Single)</p> <p>prompt: Applicable dates</p> <p>response: Timestamp (Multiple)</p> <p>prompt: Pack years</p> <p>response: Integer (Single)</p>
	actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

	<p>"statementType:Precoordinated Expression topic:Postcoordinated Expression , timing.lowerBound: 1 , timing.includeLowerBound: TRUE , timing.includeLowerBound: FALSE"</p> <p>(Codes: 398166005 Performed (qualifier value) [a997c-c03-3e99-40eb-833a-6374c7750a3a Observation procedure (procedure)] ->(363702006 Has focus (attribute))->[110483000 Tobacco user (finding)])</p>
Cocaine use	
Represented Concepts:	[a997cc03-3e99-40eb-833a-6374c7750a3a Observation procedure (procedure)] ->(363702006 Has focus (attribute))->[733461000 Cocaine user (finding)]
	<p>prompt: Summary</p> <p>response: String (Single)</p> <p>prompt: Current status</p> <p>response: String (Single)</p> <p>prompt: Applicable dates</p> <p>response: Timestamp (Multiple)</p>
actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]	<p>"statementType:Precoordinated Expression topic:Postcoordinated Expression , timing.lowerBound: 1 , timing.includeLowerBound: TRUE , timing.includeLowerBound: FALSE"</p> <p>(Codes: 398166005 Performed (qualifier value) [a997c-c03-3e99-40eb-833a-6374c7750a3a Observation procedure (procedure)] ->(363702006 Has focus (attribute))->[733461000 Cocaine user (finding)])</p>
Cocaine abuse	
Represented Concepts:	[a997cc03-3e99-40eb-833a-6374c7750a3a Observation procedure (procedure)] ->(363702006 Has focus (attribute))->[78267003 Cocaine abuse (disorder)]
	<p>prompt: Summary</p> <p>response: String (Single)</p> <p>prompt: Current status</p> <p>response: String (Single)</p> <p>prompt: Applicable dates</p> <p>response: Timestamp (Multiple)</p>
actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]	<p>"statementType:Precoordinated Expression topic:Postcoordinated Expression , timing.lowerBound: 1 , timing.includeLowerBound: TRUE , timing.includeLowerBound: FALSE"</p> <p>(Codes: 398166005 Performed (qualifier value) [a997c-c03-3e99-40eb-833a-6374c7750a3a Observation procedure (procedure)] ->(363702006 Has focus (attribute))->[78267003 Cocaine abuse (disorder)])</p>
Other substance use/abuse	

<p>prompt: Summary response: String (Single) prompt: Current status response: String (Single) prompt: Applicable dates response: Timestamp (Multiple)</p>
Homeless
<p>Represented Concepts: [a997cc03-3e99-40eb-833a-6374c7750a3a Observation procedure (procedure)] -(363702006 Has focus (attribute))->[32911000 Homeless (finding)]</p>
<p>prompt: Summary response: String (Single) prompt: Current status response: String (Single) prompt: Applicable dates response: Timestamp (Multiple)</p>
<p>actionSentence[type=elm:Instance, classType=anf:ClinicalStatement] "statementType:Precoordinated Expression topic:Postcoordinated Expression" (Codes: 398166005 Performed (qualifier value) [a997c-c03-3e99-40eb-833a-6374c7750a3a Observation procedure (procedure)] -(363702006 Has focus (attribute))->[32911000 Homeless (finding)])</p>
Unstable home environment
<p>Represented Concepts: [a997cc03-3e99-40eb-833a-6374c7750a3a Observation procedure (procedure)] -(363702006 Has focus (attribute))->[276104006 Home unsettled (finding)]</p>
<p>prompt: Summary response: String (Single) prompt: Current status response: String (Single) prompt: Applicable dates response: Timestamp (Multiple)</p>
<p>actionSentence[type=elm:Instance, classType=anf:ClinicalStatement] "statementType:Precoordinated Expression topic:Postcoordinated Expression" (Codes: 398166005 Performed (qualifier value) [a997c-c03-3e99-40eb-833a-6374c7750a3a Observation procedure (procedure)] -(363702006 Has focus (attribute))->[276104006 Home unsettled (finding)])</p>
Home environment conducive to healing

Represented Concepts: [a997cc03-3e99-40eb-833a-6374c7750a3a |Observation procedure (procedure)] ->(363702006 |Has focus (attribute))->[224250004 |Satisfactory living conditions (finding)]

prompt: Summary

response: String (Single)

prompt: Current status

response: String (Single)

prompt: Applicable dates

response: Timestamp (Multiple)

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

"statementType:Precoordinated Expression topic:Postcoordinated Expression"

(Codes: 398166005 |Performed (qualifier value)| [a997cc03-3e99-40eb-833a-6374c7750a3a |Observation procedure (procedure)] ->(363702006 |Has focus (attribute))->[224250004 |Satisfactory living conditions (finding)])

Geographically remote (40+mile drive to medical care)

Represented Concepts: [a997cc03-3e99-40eb-833a-6374c7750a3a |Observation procedure (procedure)] ->(363702006 |Has focus (attribute))->[b0549379-fc0b-45dc-8a84-befe666432f5 |Residence remote from medical facility (finding)]

prompt: Summary

response: String (Single)

prompt: Current status

response: String (Single)

prompt: Applicable dates

response: Timestamp (Multiple)

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

"statementType:Precoordinated Expression topic:Postcoordinated Expression"

(Codes: 398166005 |Performed (qualifier value)| [a997cc03-3e99-40eb-833a-6374c7750a3a |Observation procedure (procedure)] ->(363702006 |Has focus (attribute))->[b0549379-fc0b-45dc-8a84-befe666432f5 |Residence remote from medical facility (finding)])

Chapter 7. Imaging History

Lumbar/Thoracic Spine MRI Interpretation
Attach or link Images: Lumbar/Thoracic Spine MRI
<div><input type="checkbox"/> prompt: Lumbar/Thoracic Spine MRI Image response: Tuple (Multiple) initalValue: lumbarThoracicSpineMRI</div> <div><input type="checkbox"/> prompt: Lumbar/Thoracic Spine MRI Interpretation response: Tuple (Multiple) initalValue: lumbarThoracicSpineMRIInterpretation</div>
Lumbar/Thoracic Spine CT Myelogram Interpretation
Attach or link Images: Lumbar/Thoracic Spine CT Myelogram
<div><input type="checkbox"/> prompt: Lumbar/Thoracic Spine CT Myelogram Image response: Tuple (Multiple) initalValue: lumbarThoracicSpineCTMyelogram</div> <div><input type="checkbox"/> prompt: Lumbar/Thoracic Spine CT Myelogram Interpretation response: Tuple (Multiple) initalValue: lumbarThoracicSpineCTMyelogramInterpretation</div>
Lumbar/Thoracic Spine CT Interpretation
Lumbar/Thoracic Spine CT
<div><input type="checkbox"/> prompt: Lumbar/Thoracic Spine CT Image response: Tuple (Multiple) initalValue: lumbarThoracicSpineCT</div> <div><input type="checkbox"/> prompt: Lumbar/Thoracic Spine CT Interpretation response: Tuple (Multiple) initalValue: lumbarThoracicSpineCTInterpretation</div>

Chapter 8. Medications

❖ Current pain medication list

prompt: Pain Medications

response: Code (Multiple)

❖ Current anticoagulation and antiplatelet list

prompt: Pain Medications

response: Code (Multiple)

Chapter 9. Surgical Candidacy

prompt: Does patient want to be considered for surgery?

response: Boolean (Single)

prompt: Reason for neurosurgical consult

response: String (Single)

Chapter 10. Tabular List

Terminology Service Request (TSR) Mappings

Table 10.1. Terminology References

System	Code	Display Text	References
SNOMED CT	1311000205109 Anesthesiology department (environment)	Anesthesiology Provider	1
SNOMED CT	225728007 Accident and Emergency department (environment)	Emergency Medicine Provider	1
SNOMED CT	231043002 Local anesthetic block on spinal nerve root (procedure)	Precoordinated Expression	2
SNOMED CT	303611006 Epidural steroid injection (procedure)	Precoordinated Expression	2
SNOMED CT	304891004 Cognitive - behavior therapy (regime/therapy)	Precoordinated Expression	2
SNOMED CT	392236004 Operative procedure on spinal structure (procedure)	Precoordinated Expression	2
SNOMED CT	398166005 Performed (qualifier value)	Precoordinated Expression	34
SNOMED CT	42182e51-7e8b-4550-9a72-916087d0112 Computed tomography myelogram of thoracolumbar region (procedure)	Precoordinated Expression	1
SNOMED CT	44275008 Manipulation of spine (procedure)	Precoordinated Expression	2
SNOMED CT	44868003 Acupuncture (procedure)	Precoordinated Expression	2
SNOMED CT	52052004 Rehabilitation therapy (regime/therapy)	Precoordinated Expression	2
SNOMED CT	67516001 Detoxification therapy (regime/therapy)	Precoordinated Expression	2
SNOMED CT	700319007 Magnetic resonance imaging of thoracic and lumbar spine (procedure)	Precoordinated Expression	1
SNOMED CT	702487007 Computed tomography of thoracic and lumbar spine (procedure)	Precoordinated Expression	1

System	Code	Display Text	References
SNOMED CT	702897005 Pain clinic (environment)	Pain Clinic Provider	1
SNOMED CT	7a8d82a5-6876-4b44-985c-616c483071c0 Physical therapy department (environment)	Physical Therapy Provider	1
SNOMED CT	84478008 Occupational therapy (regime/therapy)	Precoordinated Expression	2
SNOMED CT	[370851004 Evaluation of diagnostic study results (procedure)] ->(363702006 Has focus (attribute))>[182e51-7e8b-4550-9a72-99b6987a0f12 Computed tomography myelogram of thoracolumbar region (procedure)]	Postcoordinated Expression	1
SNOMED CT	[370851004 Evaluation of diagnostic study results (procedure)] ->(363702006 Has focus (attribute))>[700319007 Magnetic resonance imaging of thoracic and lumbar spine (procedure)]	Postcoordinated Expression	1
SNOMED CT	[370851004 Evaluation of diagnostic study results (procedure)] ->(363702006 Has focus (attribute))>[702487007 Computed tomography of thoracic and lumbar spine (procedure)]	Postcoordinated Expression	1
SNOMED CT	[416118004 Administration (procedure)] ->(260686004 Method (attribute))>[129445006 Administration - action (qualifier value)] ->(363701004 Direct substance (attribute))>[16403005 Non-steroidal anti-inflammatory agent (product)]	Postcoordinated Expression	1
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))->[360204007 Opiate (product)]		
SNOMED CT	[416118004 Administration (procedure)] ->(260686004 Method (attribute))->[129445006 Administration - action (qualifier value)] ->(363701004 Direct substance (attribute))->[63094006 Anticonvulsant (product)]	Postcoordinated Expression	2
SNOMED CT	[416118004 Administration (procedure)] ->(260686004 Method (attribute))->[129445006 Administration - action (qualifier value)] ->(363701004 Direct substance (attribute))->[16403005 Non-steroidal anti-inflammatory agent (product)]	Postcoordinated Expression	1
SNOMED CT	[416118004 Administration (procedure)] ->(260686004 Method (attribute))->[129445006 Administration - action (qualifier value)] ->(363701004 Direct substance (attribute))->[360204007 Opiate (product)]	Postcoordinated Expression	1
SNOMED CT	[416118004 Administration (procedure)] ->(260686004 Method (attribute))->[129445006 Administration - action (qualifier value)] ->(363701004 Direct substance (attribute))->[63094006 Anticonvulsant (product)]	Postcoordinated Expression	2
SNOMED CT	[72274001 Nerve root disorder (disorder)] ->(363698007 Finding site (attribute))->[737530005 Structure of thoracolumbar spinal cord	Subacute (less than 3 months)	1

System	Code	Display Text	References
	nerve root (body structure)] ->(263502005 Clinical course (attribute))->[373935005 Subacute onset (qualifier value)]		
SNOMED CT	[72274001 Nerve root disorder (disorder)] ->(363698007 Finding site (attribute))->[737530005 Structure of thoracolumbar spinal cord nerve root (body structure)] ->(263502005 Clinical course (attribute))->[90734009 Chronic (qualifier value)]	Chronic (greater than 3 months)	1
SNOMED CT	[72274001 Nerve root disorder (disorder)] ->(363698007 Finding site (attribute))->[737530005 Structure of thoracolumbar spinal cord nerve root (body structure)] ->(263502005 Clinical course (attribute))->[373933003 Acute onset (qualifier value)]	Acute (less than 2 weeks)	1
SNOMED CT	[a997cc03-3e99-40eb-833a-6374c7750a3a Observation procedure (procedure)] ->(363702006 Has focus (attribute))->[10601006 Pain in lower limb (finding)] ->(272741003 Laterality (attribute))->[24028007 Right (qualifier value)];	Right Leg Pain	1
SNOMED CT	[a997cc03-3e99-40eb-833a-6374c7750a3a Observation procedure (procedure)] ->(363702006 Has focus (attribute))->[10601006 Pain in lower limb (finding)] ->(272741003 Laterality (attribute))->[7771000 Left (qualifier value)];	Left Leg Pain	1

System	Code	Display Text	References
SNOMED CT	[a997cc03-3e99-40e-b-833a-6374c7750a3a Observation procedure (procedure)] - >(363702006 Has focus (attribute))->[13791008 Asthenia (finding)]- - >(363698007 Finding site (attribute))->[371304004 Skin structure of lower limb (body structure)]- - >(272741003 Laterality (attribute))->[7771000 Left (qualifier value)];	Left Leg Weakness	1
SNOMED CT	[a997cc03-3e99-40e-b-833a-6374c7750a3a Observation procedure (procedure)] - >(363702006 Has focus (attribute))->[13791008 Asthenia (finding)]- - >(363698007 Finding site (attribute))->[371304004 Skin structure of lower limb (body structure)]- - >(272741003 Laterality (attribute))->[24028007 Right (qualifier value)];	Right Leg Weakness	1
SNOMED CT	[a997cc03-3e99-40e-b-833a-6374c7750a3a Observation procedure (procedure)] - >(363702006 Has focus (attribute))->[13791008 Asthenia (finding)]- - >(363698007 Finding site (attribute))->[37822005 Lower back structure (body structure)];	Low Back Weakness	1
SNOMED CT	[a997cc03-3e99-40e-b-833a-6374c7750a3a Observation procedure (procedure)] - >(363702006 Has focus (attribute))->[27635008 Aching pain (finding)]	aching	1
SNOMED CT	[a997cc03-3e99-40e-b-833a-6374c7750a3a Observation procedure (procedure)] -	Low Back Pain	1

System	Code	Display Text	References
	>(363702006 Has focus (attribute))->[279039007 Low back pain (finding)]		
SNOMED CT	[a997cc03-3e99-40e-b-833a-6374c7750a3a Observation procedure (procedure)] - >(363702006 Has focus (attribute))->[36349006 Burning pain (finding)]	burning	1
SNOMED CT	[a997cc03-3e99-40e-b-833a-6374c7750a3a Observation procedure (procedure)] - >(363702006 Has focus (attribute))->[44077006 Numbness (finding)]- - >(363698007 Finding site (attribute))->[113182001 Skin structure of lower back (body structure)];	Low Back Numbness	1
SNOMED CT	[a997cc03-3e99-40e-b-833a-6374c7750a3a Observation procedure (procedure)] - >(363702006 Has focus (attribute))->[44077006 Numbness (finding)]- - >(363698007 Finding site (attribute))->[371304004 Skin structure of lower limb (body structure)]- - >(272741003 Laterality (attribute))->[24028007 Right (qualifier value)];	Right Leg Numbness	1
SNOMED CT	[a997cc03-3e99-40e-b-833a-6374c7750a3a Observation procedure (procedure)] - >(363702006 Has focus (attribute))->[44077006 Numbness (finding)]- - >(363698007 Finding site (attribute))->[371304004 Skin structure of lower limb (body structure)]- - >(272741003 Laterality (attribute))->[7771000 Left (qualifier value)];	Left Leg Numbness	1

System	Code	Display Text	References
SNOMED CT	[a997cc03-3e99-40e-b-833a-6374c7750a3a Observation procedure (procedure)] - >(363702006 Has focus (attribute))->[49575005 Shooting pain (finding)]	shooting	1
SNOMED CT	[a997cc03-3e99-40e-b-833a-6374c7750a3a Observation procedure (procedure)] - >(363702006 Has focus (attribute))->[55145008 Stabbing pain (finding)]	jabbing	1
SNOMED CT	[a997cc03-3e99-40e-b-833a-6374c7750a3a Observation procedure (procedure)] - >(363702006 Has focus (attribute))->[723316007 Electric shock type pain (finding)]	electric	1
SNOMED CT	[a997cc03-3e99-40e-b-833a-6374c7750a3a Observation procedure (procedure)] - >(363702006 Has focus (attribute))->[185248009 Seen in pain clinic (finding)]	Postcoordinated Expression	1
SNOMED CT	[a997cc03-3e99-40e-b-833a-6374c7750a3a Observation procedure (procedure)] - >(363702006 Has focus (attribute))->[110483000 Tobacco user (finding)]	Postcoordinated Expression	1
SNOMED CT	[a997cc03-3e99-40e-b-833a-6374c7750a3a Observation procedure (procedure)] - >(363702006 Has focus (attribute))->[15167005 Alcohol abuse (disorder)]	Postcoordinated Expression	1
SNOMED CT	[a997cc03-3e99-40e-b-833a-6374c7750a3a Observation procedure (procedure)] - >(363702006 Has focus (attribute))->[224250004	Postcoordinated Expression	1

System	Code	Display Text	References
	Satisfactory living conditions (finding)]		
SNOMED CT	[a997cc03-3e99-40e-b-833a-6374c7750a3a Observation procedure (procedure)] - >(363702006 Has focus (attribute))->[276104006 Home unsettled (finding)]	Postcoordinated Expression	1
SNOMED CT	[a997cc03-3e99-40e-b-833a-6374c7750a3a Observation procedure (procedure)] - >(363702006 Has focus (attribute))->[32911000 Homeless (finding)]	Postcoordinated Expression	1
SNOMED CT	[a997cc03-3e99-40e-b-833a-6374c7750a3a Observation procedure (procedure)] - >(363702006 Has focus (attribute))->[35489007 Depressive disorder (disorder)]	Postcoordinated Expression	1
SNOMED CT	[a997cc03-3e99-40e-b-833a-6374c7750a3a Observation procedure (procedure)] - >(363702006 Has focus (attribute))->[47505003 Posttraumatic stress disorder (disorder)]	Postcoordinated Expression	1
SNOMED CT	[a997cc03-3e99-40e-b-833a-6374c7750a3a Observation procedure (procedure)] - >(363702006 Has focus (attribute))->[48694002 Anxiety (finding)]	Postcoordinated Expression	1
SNOMED CT	[a997cc03-3e99-40e-b-833a-6374c7750a3a Observation procedure (procedure)] - >(363702006 Has focus (attribute))->[704197006 Admits alcohol use (finding)]	Postcoordinated Expression	1
SNOMED CT	[a997cc03-3e99-40e-b-833a-6374c7750a3a	Postcoordinated Expression	1

System	Code	Display Text	References
	[Observation procedure (procedure)] - >(363702006 Has focus (attribute))->[733461000 Cocaine user (finding)]		
SNOMED CT	[a997cc03-3e99-40e-b-833a-6374c7750a3a Observation procedure (procedure)] - >(363702006 Has focus (attribute))->[78267003 Cocaine abuse (disorder)]	Postcoordinated Expression	1
SNOMED CT	[a997cc03-3e99-40e-b-833a-6374c7750a3a Observation procedure (procedure)] - >(363702006 Has focus (attribute))->[b0549379-fc0b-45d-c-8a84-befe666432f5 Residence remote from medical facility (finding)]	Postcoordinated Expression	1
SNOMED CT	[a997cc03-3e99-40e-b-833a-6374c7750a3a Observation procedure (procedure)] - >(363702006 Has focus (attribute))->[185248009 Seen in pain clinic (finding)]	Postcoordinated Expression	1
SNOMED CT	[a997cc03-3e99-40e-b-833a-6374c7750a3a Observation procedure (procedure)] - >(363702006 Has focus (attribute))->[110483000 Tobacco user (finding)]	Postcoordinated Expression	1
SNOMED CT	[a997cc03-3e99-40e-b-833a-6374c7750a3a Observation procedure (procedure)] - >(363702006 Has focus (attribute))->[15167005 Alcohol abuse (disorder)]	Postcoordinated Expression	1
SNOMED CT	[a997cc03-3e99-40e-b-833a-6374c7750a3a Observation procedure (procedure)] - >(363702006 Has focus (attribute))->[224250004	Postcoordinated Expression	1

System	Code	Display Text	References
	Satisfactory living conditions (finding)]		
SNOMED CT	[a997cc03-3e99-40e-b-833a-6374c7750a3a Observation procedure (procedure)] - >(363702006 Has focus (attribute))->[276104006 Home unsettled (finding)]	Postcoordinated Expression	1
SNOMED CT	[a997cc03-3e99-40e-b-833a-6374c7750a3a Observation procedure (procedure)] - >(363702006 Has focus (attribute))->[32911000 Homeless (finding)]	Postcoordinated Expression	1
SNOMED CT	[a997cc03-3e99-40e-b-833a-6374c7750a3a Observation procedure (procedure)] - >(363702006 Has focus (attribute))->[35489007 Depressive disorder (disorder)]	Postcoordinated Expression	1
SNOMED CT	[a997cc03-3e99-40e-b-833a-6374c7750a3a Observation procedure (procedure)] - >(363702006 Has focus (attribute))->[47505003 Posttraumatic stress disorder (disorder)]	Postcoordinated Expression	1
SNOMED CT	[a997cc03-3e99-40e-b-833a-6374c7750a3a Observation procedure (procedure)] - >(363702006 Has focus (attribute))->[48694002 Anxiety (finding)]	Postcoordinated Expression	1
SNOMED CT	[a997cc03-3e99-40e-b-833a-6374c7750a3a Observation procedure (procedure)] - >(363702006 Has focus (attribute))->[704197006 Admits alcohol use (finding)]	Postcoordinated Expression	1
SNOMED CT	[a997cc03-3e99-40e-b-833a-6374c7750a3a	Postcoordinated Expression	1

System	Code	Display Text	References
	[Observation procedure (procedure)] - >(363702006 Has focus (attribute))->[733461000 Cocaine user (finding)]		
SNOMED CT	[a997cc03-3e99-40e-b-833a-6374c7750a3a Observation procedure (procedure)] - >(363702006 Has focus (attribute))->[78267003 Cocaine abuse (disorder)]	Postcoordinated Expression	1
SNOMED CT	[a997cc03-3e99-40e-b-833a-6374c7750a3a Observation procedure (procedure)] - >(363702006 Has focus (attribute))->[b0549379-fc0b-45d-c-8a84-befe666432f5 Residence remote from medical facility (finding)]	Postcoordinated Expression	1
SNOMED CT	[a997cc03-3e99-40e-b-833a-6374c7750a3a Observation procedure (procedure)]- - >(363702006 Has focus (attribute))->[301331008 Finding of body mass index (finding)]	Postcoordinated Expression	1
SNOMED CT	[a997cc03-3e99-40e-b-833a-6374c7750a3a Observation procedure (procedure)]- - >(363702006 Has focus (attribute))->[82423001 Chronic pain (finding)]	Postcoordinated Expression	1
SNOMED CT	[a997cc03-3e99-40e-b-833a-6374c7750a3a Observation procedure (procedure)]- - >(363702006 Has focus (attribute))->[82423001 Chronic pain (finding)]	Postcoordinated Expression	1

Chapter 11. Behavior Symbols

Table 11.1. Group Organizational Behavior

Sym- bol	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 11.2. Group Selection Behavior

Sym- bol	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 11.3. Required Behavior

Sym- bol	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 actions processed by the end user.
➤	MustUnlessDocumented	An action with this behavior must be included in the set of actions processed by the end user, unless the end user provides documentation as to why the action was not included.

Table 11.4. 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 11.5. 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 11.6. 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] *Neurosurgery: Radiculopathy (Lumbar /Thoracic) Clinical Content White Paper*

[CSD] *Radiculopathy (Lumbar /Thoracic) Conceptual Structure Document*

[KVRpt] *Radiculopathy (Lumbar /Thoracic) KNART Validation Report*

Supporting Evidence

[Kaiser 2014] Kaiser, Michael G, Jason C Eck, Michael W Groff, Zoher Ghogawala, William C Watters, Andrew T Dailey, Daniel K Resnick, et al. 2014. "Guideline update for the performance of fusion procedures for degenerative disease of the lumbar spine. (link [<https://doi.org/10.3171/2014.4.SPINE14326>])

[Chou 2007] Chou, Roger; Amir Qaseem, Vincenza Snow, Donald Casey, J. Thomas Cross, Paul Shekelle, Douglas K Owens, Clinical Efficacy Assessment Subcommittee of the American College of Physicians, American College of Physicians, and American Pain Society Low Back Pain Guidelines Panel. 2007. "Diagnosis and treatment of low back pain: a joint clinical practice guideline from the American College of Physicians and the American Pain Society" *Annals of Internal Medicine* 147 (7): 478–91. doi:10.7326/0003-4819-147-7-200710020-00006 (link [<https://doi.org/10.7326/0003-4819-147-7-200710020-00006>])

[Kreiner 2014] Kreiner, D. Scott, Steven W Hwang, John E Easa, Daniel K Resnick, Jamie L Baisden, Shay Bess, Charles H Cho, et al. 2014. "An Evidence-Based Clinical Guideline for the Diagnosis and Treatment of Lumbar Disc Herniation with Radiculopathy." *The Spine Journal: Official Journal of the North American Spine Society* 14 (1): 180–91. doi:10.1016/j.spinee.2013.08.003 (link [<http://www.spine.org/Pages/Practice-Policy/ClinicalCare/ClinicalGuidlines/Default.aspx>])

[Kreiner 2013] Kreiner, D. Scott, William O. Shaffer, Jamie L. Baisden, Thomas J. Gilbert, Jeffrey T. Summers, John F. Toton, Steven W. Hwang, Richard C. Mendel, Charles A. Reitman, et al. 2013. "An evidence-based clinical guideline for the diagnosis and treatment of degenerative lumbar spinal stenosis (update)". *The Spine Journal: Official Journal of the North American Spine Society* 13 (7): 734–43. doi:10.1016/j.spinee.2012.11.059 (link [<https://doi.org/10.1016/j.spinee.2012.11.059>])

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[Patel, 2015] Patel, ND, Broderick, DF, Burns, J, et al. "Expert Panel on Neurologic Imaging. ACR Appropriateness Criteria: Low Back Pain. American College of Radiology." <https://acsearch.acr.org/docs/69483/Narrative/>. Revised 2015. (link [<https://acsearch.acr.org/docs/69483/Narrative/>])

[NLM 2016a] MEDROL- methylprednisolone tablet [Internet].: U.S. National Library of Medicine. 2016. Available from: <https://dailymed.nlm.nih.gov/dailymed/drugIn>

- fo.cfm?setid=39d5270b-d957-4821-93d6-501b7b9f02d4* (link [https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=39d5270b-d957-4821-93d6-501b7b9f02d4])
- [NLM 2016b] *NAPROSYN-naproxen tablet; EC-NAPROSYN-naproxen tablet delayed release; NAPROSYN-naproxen suspension; ANAPROX-naproxen sodium tablet; ANAPROX DS-naproxen sodium tablet. [Internet].: National Library of Medicine; 2016. Available from: https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=68848217-03c9-4377-9be6-6f567e629129.* (link [https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=68848217-03c9-4377-9be6-6f567e629129.]])
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