Neurosurgery: Radiculopathy (Cervical) Documentation Template

Documentation Template: Conceptual Structure

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Department of Veterans Affairs (VA)

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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

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June 20, 2018	Published
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Table 2. Clinical White Paper Contributors

Name	Role	Affiliation
David (Cory) Adamson, MD	Author	Physician, 1670 Clairmont Rd, Atlanta, GA 30033
Jacob Rachlin, MD	Author	Chief of Neurosurgery, VA Boston Health Care System, 1400 VFW Parkway, Boston, MA 02132
Joseph King, MD	Author	Physician, Surgical Service, VA New England/Connecticut Healthcare System, 950 Campbell Ave, West Haven, CT 06516

Table 3. Artifact Identifier

Domain	Artifact ID	Name
urn:va.gov:kbs:knart:artifact:r1	3ee4ecaf-6185-5d2f-99b1-1ce4b3d44725	B39

Artifact Applicability

Table 4. Applicability Foci, Description and Codes

Focus	Description	Code System	Code	Value Set	Value Set Version
PatientAgeGroup	Population 18 years old or older	SNOMED CT	133936004 |Adult (person)|	N/A	N/A
ClinicalVenue	Primary Care	SNOMED CT	5351000124100 | Primary care clinic (environment)|	N/A	N/A
ClinicalFocus	Outpatient being referred to Neurosurgery for Radiculopathy (Cervical)			N/A	N/A

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. cervicalSpineX-rays

Expression: type=elm:Query

Annotation:

Codes: elm:value[elm:Code]: [398166005 |Performed (qualifier value)|]elm:value[elm:Code]:
[2904f20f-aaf3-4b68-a580-d84b90f47b93 |Diagnostic radiography of cervical spine with flexion and
extension studies (procedure)]

Table 1.2. cervicalSpineX-raysInterpretation

Expression: type=elm:Query

Annotation:

Codes: elm:value[elm:Code]: [398166005 |Performed (qualifier value)|]elm:value[elm:Code]:
[[370851004 |Evaluation of diagnostic study results (procedure)] ->(363702006 |Has focus (attribute))-
>[2904f20f-aaf3-4b68-a580-d84b90f47b93 |Diagnostic radiography of cervical spine with flexion and
extension studies (procedure)]]

Table 1.3. cervicalSpineMRI

Expression: type=elm:Query

Annotation:

Codes: elm:value[elm:Code]: [398166005 |Performed (qualifier value)|]elm:value[elm:Code]:
[241646009 |Magnetic resonance imaging of cervical spine (procedure)|]

Table 1.4. cervicalSpineMRIInterpretation

Expression: type=elm:Query

Annotation:

Codes: elm:value[elm:Code]: [398166005 |Performed (qualifier value)|]elm:value[elm:Code]:
[[370851004 |Evaluation of diagnostic study results (procedure)] ->(363702006 |Has focus (attribute))-
>[241646009 |Magnetic resonance imaging of cervical spine (procedure)]]

Table 1.5. cervicalSpineMyelogram

Expression: type=elm:Query

Annotation:

Codes: elm:value[elm:Code]: [398166005 |Performed (qualifier value)|]elm:value[elm:Code]:
[2847006 |Cervical myelography (procedure)|]

Table 1.6. cervicalSpineMyelogramInterpretation

Expression: type=elm:Query

Annotation:

Codes: elm:value[elm:Code]: [398166005 |Performed (qualifier value)|]elm:value[elm:Code]:
[[370851004 |Evaluation of diagnostic study results (procedure)] ->(363702006 |Has focus (attribute))-
>[2847006 |Cervical myelography (procedure)]]

Table 1.7. cervicalSpineCT

Expression: type=elm:Query

Annotation:

Codes: elm:value[elm:Code]: [398166005 |Performed (qualifier value)|]elm:value[elm:Code]: [241578008 |Computed tomography of cervical spine (procedure)|]

Table 1.8. cervicalSpineCTInterpretation

Expression: type=elm:Query

Annotation:

Codes: elm:value[elm:Code]: [398166005 |Performed (qualifier value)|]elm:value[elm:Code]: [[370851004 |Evaluation of diagnostic study results (procedure)] ->(363702006 |Has focus (attribute))->[241578008 |Computed tomography of cervical spine (procedure)]]

Triggers

No trigger definitions are present.

Chapter 2. Expression Definitions

No expression definitions are present.

Chapter 3. Chief Complaint

❖ What are the patient's chief complaints?

	◈ prompt:	Complaint
	response:	Code (Multiple)
	response range:	EnumerationConstraint (List)
	item:	Pain
	item:	Numbness
	item:	Weakness
	☞ item:	Other

Location of symptoms.

	◈ prompt:	Where are these symptoms occuring?
	response:	Code (Multiple)
	response range:	EnumerationConstraint (List)
	item:	Neck Pain([a997cc03-3e99-40eb-833a-6374c7750a3a |Observation procedure (procedure)] ->(363702006 |Has focus (attribute))->[81680005 |Neck pain (finding)])
	item:	Neck Weakness([a997cc03-3e99-40eb-833a-6374c7750a3a |Observation procedure (procedure)] ->(363702006 |Has focus (attribute))->[249931001 |Weakness of neck (finding)])
	item:	Neck Numbness([a997cc03-3e99-40eb-833a-6374c7750a3a |Observation procedure (procedure)]- ->(363702006 |Has focus (attribute))->[44077006 |Numbness (finding)]- ->(363698007 |Finding site (attribute))->[43081002 |Skin structure of neck (body structure)];)
	item:	Left Arm Pain([a997cc03-3e99-40eb-833a-6374c7750a3a |Observation procedure (procedure)]- ->(363702006 |Has focus (attribute))->[22253000 |Pain (finding)]- ->(363698007 | Finding site (attribute))->[53120007 |Upper limb structure (body structure)]- ->(272741003 | Laterality (attribute))->[7771000 |Left (qualifier value)];)
	item:	Right Arm Pain([a997cc03-3e99-40eb-833a-6374c7750a3a |Observation procedure (procedure)]- ->(363702006 |Has focus (attribute))->[22253000 |Pain (finding)]- ->(363698007 |

Finding site (attribute))->[53120007 |Upper limb structure (body structure)]- ->(272741003 |Laterality (attribute))->[24028007 |Right (qualifier value)];)

item: Left Arm Numbness([a997cc03-3e99-40eb-833a-6374c7750a3a |Observation procedure (procedure)]- ->(363702006 |Has focus (attribute))->[44077006 |Numbness (finding)]- ->(363698007 |Finding site (attribute))->[53120007 |Upper limb structure (body structure)]- ->(272741003 |Laterality (attribute))->[7771000 |Left (qualifier value)];)

item: Right Arm Numbness([a997cc03-3e99-40eb-833a-6374c7750a3a |Observation procedure (procedure)]- ->(363702006 |Has focus (attribute))->[44077006 |Numbness (finding)]- ->(363698007 |Finding site (attribute))->[53120007 |Upper limb structure (body structure)]- ->(272741003 |Laterality (attribute))->[24028007 |Right (qualifier value)];)

item: Left Arm Weakness([a997cc03-3e99-40eb-833a-6374c7750a3a |Observation procedure (procedure)]- ->(363702006 |Has focus (attribute))->[249944006 |Monoparesis - arm (disorder)]- ->(272741003 |Laterality (attribute))->[7771000 |Left (qualifier value)];)

item: Right Arm Weakness([a997cc03-3e99-40eb-833a-6374c7750a3a |Observation procedure (procedure)]- ->(363702006 |Has focus (attribute))->[249944006 |Monoparesis - arm (disorder)]- ->(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([a997cc03-3e99-40eb-833a-6374c7750a3a |Observation procedure (procedure)] ->(363702006 |Has focus (attribute))->[36349006 |Burning pain (finding)])

item: shooting([a997cc03-3e99-40eb-833a-6374c7750a3a |Observation procedure (procedure)] ->(363702006 |Has focus (attribute))->[49575005 |Shooting pain (finding)])

item: aching([a997cc03-3e99-40eb-833a-6374c7750a3a |Observation procedure (procedure)] ->(363702006 |Has focus (attribute))->[27635008 |Aching pain (finding)])

item: electric([a997cc03-3e99-40eb-833a-6374c7750a3a |Observation procedure (procedure)] ->(363702006 |Has focus (attribute))->[723316007 |Electric shock type pain (finding)])

item: jabbing([a997cc03-3e99-40eb-833a-6374c7750a3a |Observation procedure (procedure)] ->(363702006 |Has focus (attribute))->[55145008 |Stabbing pain (finding)])

☞ item: Other

Details

Duration of symptoms

prompt: What is the duration of symptoms?

response: Code (Multiple)

response range: EnumerationConstraint (List)

item: Acute (less than 2 weeks) ([a997cc03-3e99-40eb-833a-6374c7750a3a |Observation procedure (procedure)]- ->(363702006 |Has focus (attribute))->[54404000 |Cervical radiculopathy (disorder)]- ->(263502005 |Clinical course (attribute))->[373933003 |Acute onset (qualifier value)];)

item: Subacute (less than 3 months) ([a997cc03-3e99-40eb-833a-6374c7750a3a |Observation procedure (procedure)]- ->(363702006 |Has focus (attribute))->[54404000 |Cervical radiculopathy (disorder)]- ->(263502005 |Clinical course (attribute))->[19939008 |Subacute (qualifier value)];)

item: Chronic (greater than 3 months) ([a997cc03-3e99-40eb-833a-6374c7750a3a |Observation procedure (procedure)]- ->(363702006 |Has focus (attribute))->[54404000 |Cervical radiculopathy (disorder)]- ->(263502005 |Clinical course (attribute))->[90734009 |Chronic (qualifier value)];)

Chapter 4. Prior Conservative Therapies

Which conservative therapies have been tried?

Medications

# ❖	Non-steroidal anti-inflammatory drug (NSAIDs)	
	# prompt:	NSAID
	response:	Code (Single)
	# prompt:	Dose
	response:	PhysicalQuantity (Single)
	# prompt:	Date Started
	response:	Timestamp (Single)
	# prompt:	Date Ended
	response:	Timestamp (Single)

# ❖	Opiods	
	# prompt:	Opiod Medication
	response:	Code (Single)
	# prompt:	Dose
	response:	PhysicalQuantity (Single)
	# prompt:	Date Started
	response:	Timestamp (Single)
	# prompt:	Date Ended
	response:	Timestamp (Single)

# ❖	Antiepileptics	
	# prompt:	Antiepileptic Medication
	response:	Code (Single)
	# prompt:	Dose
	response:	PhysicalQuantity (Single)
	# prompt:	Date Started
	response:	Timestamp (Single)
	# prompt:	Date Ended
	response:	Timestamp (Single)

# ❖	Tricyclic antidepressants	
	# prompt:	Tricyclic antidepressant medication
	response:	Code (Single)
	# prompt:	Dose
	response:	PhysicalQuantity (Single)
	# prompt:	Date Started
	response:	Timestamp (Single)

prompt: Date Ended

response: Timestamp (Single)

\# ❖ Other Medications

prompt: Other Medication

response: Code (Single)

prompt: Dose

response: PhysicalQuantity (Single)

prompt: Date Started

response: Timestamp (Single)

prompt: Date Ended

response: Timestamp (Single)

Other therapies

\# Occupational 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)

\# Cervical Traction

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)

\# Spinal Manipulation

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)

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)

Pain clinic

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)

Selective nerve root blocks

Represented Concepts: 231043002 |Local anesthetic block on spinal nerve root (procedure)|

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 398166005 |Performed (qualifier value)|

topic: Precoordinated Expression 231043002 |Local anesthetic block on spinal nerve root (procedure)|

Epidural steroid injections

Represented Concepts: 303611006 |Epidural steroid injection (procedure)|

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 398166005 |Performed (qualifier value)|

topic: Precoordinated Expression 303611006 | Epidural steroid injection (procedure)|

❖ Other

prompt: Therapy?

response: String (Single)

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)

Chapter 5. 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 398166005 | Performed (qualifier value)|

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

timing.lowerBound: 0

timing.upperBound: +INF

timing.includeLowerBound: false

timing.includeUpperBound: false

timing.resolution: 1

#	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 398166005	Performed (qualifier value)|
		topic: Postcoordinated Expression [a997cc03-3e99-40eb-833a-6374c7750a3a |Observation procedure (procedure)]- ->(363702006 |Has focus (attribute))->[47505003 |Posttraumatic stress disorder (disorder)]
		timing.lowerBound: 0
		result.upperBound: +INF
		timing.includeLowerBound: false
		timing.includeUpperBound: false
#	Anxiety	

Represented Concepts: [a997cc03-3e99-40eb-833a-6374c7750a3a |Observation procedure (procedure)]- ->(363702006 |Has focus (attribute))->[197480006 |Anxiety disorder (disorder)]

	# prompt:	Summary anxiety 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 398166005	Performed (qualifier value)|
		topic: Postcoordinated Expression [a997cc03-3e99-40eb-833a-6374c7750a3a |Observation procedure (procedure)]- ->(363702006 |Has focus (attribute))->[197480006 |Anxiety disorder (disorder)]
		timing.lowerBound: 0
		result.upperBound: +INF
		timing.includeLowerBound: false
		timing.includeUpperBound: false
		timing.resolution: 1
#	Depression	

Represented Concepts: [a997cc03-3e99-40eb-833a-6374c7750a3a |Observation procedure (procedure)]- ->(363702006 |Has focus (attribute))->[35489007 |Depressive disorder (disorder)]

	# prompt:	Summary depression 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 398166005 | Performed (qualifier value)|
	topic: Postcoordinated Expression [a997cc03-3e99-40eb-833a-6374c7750a3a |Observation procedure (procedure)]- ->(363702006 |Has focus (attribute))- >[35489007 |Depressive disorder (disorder)]
	timing.lowerBound: 0
	result.upperBound: +INF
	timing.includeLowerBound: false
	timing.includeUpperBound: false
	timing.resolution: 1

❖ Other mental conditions

	# prompt:	Other mental condition
	response:	String (Single)
	# prompt:	History
	response:	String (Single)
	# prompt:	Consult date
	response:	Timestamp (Single)
	# prompt:	Results
	response:	String (Single)
	# prompt:	Current status
	response:	String (Single)

❖ Oncological conditions

	# prompt:	Summary
	response:	String (Single)
	# prompt:	Consult date
	response:	Timestamp (Single)
	# prompt:	Results
	response:	String (Single)
	# prompt:	Current status
	response:	String (Single)

Obesity

	# prompt:	Body Mass Index (BMI)
	itemCode:	[a997cc03-3e99-40eb-833a-6374c7750a3a |Observation procedure (procedure)]- ->(363702006 |Has focus (attribute))- >[301331008 |Finding of body mass index (finding)]

response: PhysicalQuantity (Single)

responseBinding: Property ("bmi")

#

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

statementType: Precoordinated Expression 398166005 | Performed (qualifier value)|

topic: Postcoordinated Expression [a997cc03-3e99-40eb-833a-6374c7750a3a |Observation procedure (procedure)]- ->(363702006 |Has focus (attribute))->[301331008 |Finding of body mass index (finding)]

result.lowerBound: bmi

result.upperBound: bmi

result.includeLowerBound: true

result.includeUpperBound: true

\# ❖ Cadiovascular conditions

\# prompt: Summary

response: String (Single)

\# prompt: Consult date

response: Timestamp (Single)

\# prompt: Results

response: String (Single)

\# prompt: Current status

response: String (Single)

Chapter 6. Surgical History

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

Represented Concepts: 387713003 |Surgical procedure (procedure)|

❖ 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 398166005 | Performed (qualifier value)|

topic: Precoordinated Expression 392236004 |Operative procedure on spinal structure (procedure)|

timing.lowerBound: 0

timing.upperBound: +INF

timing.includeLowerBound: false

timing.includeUpperBound: false

timing.resolution: 1

❖ Other prior surgeries

prompt:	Summary
response:	String (Single)
prompt:	Date
response:	Timestamp (Single)

Chapter 7. 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)]	
# 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 398166005 | Performed (qualifier value)|
	topic: Postcoordinated Expression [a997cc03-3e99-40eb-833a-6374c7750a3a |Observation procedure (procedure)]- ->(363702006 |Has focus (attribute))->[704197006 |Admits alcohol use (finding)]
	timing.lowerBound: 0
	timing.upperBound: +INF
	timing.includeLowerBound: false
	timing.includeUpperBound: false
	timing.resolution: 1
Alcohol abuse	
Represented Concepts: [a997cc03-3e99-40eb-833a-6374c7750a3a |Observation procedure (procedure)]- ->(363702006 |Has focus (attribute))->[15167005 |Alcohol abuse (disorder)]	
# 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 398166005 | Performed (qualifier value)|
	topic: Postcoordinated Expression [a997cc03-3e99-40eb-833a-6374c7750a3a |Observation

procedure (procedure)]- ->(363702006 |Has focus (attribute))->[15167005 |Alcohol abuse (disorder)]

timing.lowerBound: 0

timing.upperBound: +INF

timing.includeLowerBound: false

timing.includeUpperBound: false

timing.resolution: 1

Rehabilitation

Represented Concepts: 52052004 |Rehabilitation therapy (regime/therapy)|
# 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 398166005 | Performed (qualifier value)|

topic: Precoordinated Expression 52052004 |Rehabilitation therapy (regime/therapy)|

Detoxification

Represented Concepts: 67516001 |Detoxification therapy (regime/therapy)|
# 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 398166005 | Performed (qualifier value)|

topic: Precoordinated Expression 67516001 |Detoxification therapy (regime/therapy)|

Current or former tobacco user

Represented Concepts: [a997cc03-3e99-40eb-833a-6374c7750a3a |Observation procedure (procedure)]- ->(363702006 |Has focus (attribute))->[110483000 |Tobacco user (finding)]	
# prompt:	Summary
response:	String (Single)
# prompt:	Current status

response: String (Single)

prompt: Applicable dates

response: Timestamp (Multiple)

prompt: Pack years

response: Integer (Single)

responseBinding: Property ("tobaccoPack")

#

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

statementType: Precoordinated Expression 398166005 | Performed (qualifier value)|

topic: Postcoordinated Expression [a997cc03-3e99-40eb-833a-6374c7750a3a |Observation procedure (procedure)]- ->(363702006 |Has focus (attribute))->[110483000 |Tobacco user (finding)]

timing.lowerBound: 0

timing.upperBound: +INF

timing.includeLowerBound: false

timing.includeUpperBound: false

timing.resolution: 1

result.lowerBound: 1

result.upperBound: tobaccoPack

result.includeLowerBound: true

result.includeUpperBound: true

result.resolution: 1

result.measureSemantic: Precoordinated Expression 401201003 |Cigarette pack-years (observable entity)|

Cocaine abuse

Represented Concepts: [a997cc03-3e99-40eb-833a-6374c7750a3a |Observation procedure (procedure)]- ->(363702006 |Has focus (attribute))->[733461000 |Cocaine user (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 398166005 | Performed (qualifier value)|

topic: Postcoordinated Expression [a997cc03-3e99-40eb-833a-6374c7750a3a |Observation

	procedure (procedure)]- ->(363702006 |Has focus (attribute))->[733461000 |Cocaine user (finding)]
	timing.lowerBound: 0
	timing.upperBound: +INF
	timing.includeLowerBound: false
	timing.includeUpperBound: false

Cocaine abuse

Represented Concepts: [a997cc03-3e99-40eb-833a-6374c7750a3a |Observation procedure (procedure)]- ->(363702006 |Has focus (attribute))->[78267003 |Cocaine abuse (disorder)]

	# 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 398166005	Performed (qualifier value)|
	topic: Postcoordinated Expression [a997cc03-3e99-40eb-833a-6374c7750a3a |Observation procedure (procedure)]- ->(363702006 |Has focus (attribute))->[78267003 |Cocaine abuse (disorder)]
	timing.lowerBound: 0
	timing.upperBound: +INF
	timing.includeLowerBound: false
	timing.includeUpperBound: false

Homeless

Represented Concepts: [a997cc03-3e99-40eb-833a-6374c7750a3a |Observation procedure (procedure)]- ->(363702006 |Has focus (attribute))->[32911000 |Homeless (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 398166005	Performed (qualifier value)|
	topic: Postcoordinated Expression [a997cc03-3e99-40eb-833a-6374c7750a3a |Observation

procedure (procedure)]- ->(363702006 |Has focus (attribute))->[32911000 |Homeless (finding)]

timing.lowerBound: 0

timing.upperBound: +INF

timing.includeLowerBound: false

timing.includeUpperBound: false

Unstable home environment

Represented Concepts: [a997cc03-3e99-40eb-833a-6374c7750a3a |Observation procedure (procedure)]- ->(363702006 |Has focus (attribute))->[276104006 |Home unsettled (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 398166005 | Performed (qualifier value)|

topic: Postcoordinated Expression [a997cc03-3e99-40eb-833a-6374c7750a3a |Observation procedure (procedure)]- ->(363702006 |Has focus (attribute))->[276104006 |Home unsettled (finding)]

timing.lowerBound: 0

timing.upperBound: +INF

timing.includeLowerBound: false

timing.includeUpperBound: false

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 398166005 | Performed (qualifier value)|

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

Chapter 8. Imaging History

Cervical Spine X-rays images and Interpretation	
Attach or link Images: Cervical Spine X-rays with dynamic flexion and extension	
# prompt:	Cervical Spine X-rays Images with dynamic flexion and extension
response:	Tuple (Multiple)
initalValue: cervicalSpineX-rays	
# prompt:	Cervical Spine X-rays Interpretation with dynamic flexion and extension
response:	Tuple (Multiple)
initalValue: cervicalSpineX-raysInterpretation	
Cervical MRI Imaging and Interpretation	
Attach or link Images: Cervical MRI	
# prompt:	Cervical MRI Image
response:	Tuple (Multiple)
initalValue: cervicalSpineMRI	
# prompt:	Cervical MRI Interpretation
response:	Tuple (Multiple)
initalValue: cervicalSpineMRIInterpretation	
Cervical Spine Myelogram Image and Interpretation	
Attach or link Images: Cervical Spine Myelogram	
# prompt:	Cervical Spine Myelogram Image
response:	Tuple (Multiple)
initalValue: cervicalSpineMyelogram	
# prompt:	Cervical Spine Myelogram Interpretation
response:	Tuple (Multiple)
initalValue: cervicalSpineMyelogramInterpretation	
Cervical Spine CT Image and Interpretation	
Cervical Spine CT	
# prompt:	Cervical Spine CT Interpretation
response:	Tuple (Multiple)
initalValue: cervicalSpineCT	
# prompt:	Cervical Spine CT Interpretation
response:	Tuple (Multiple)
initalValue: cervicalSpineCTInterpretation	

Chapter 9. Medications

❖ Current pain medication list

prompt:	Pain Medications
response:	Code (Single)

❖ Current anticoagulation and antiplatelet list

prompt:	Pain Medications
response:	Code (Single)

Chapter 10. Surgical Candidacy

prompt: Does patient want to be considered for surgery?

 response: Boolean (Single)

prompt: Reason for neursurgical consult

 response: String (Single)

Chapter 11. Tabular List

Terminology Service Request (TSR) Mappings

Table 11.1. Terminology Versions

Name	Identifer	Version
SNOMED CT	2.16.840.1.113883.6.96	United States Edition 20180301

Table 11.2. Terminology References

System	Code	Display Text[a]	References[b]
SNOMED CT	133936004 |Adult (person)|	Population 18 years old or older	1
SNOMED CT	231043002 |Local anesthetic block on spinal nerve root (procedure)|	Precoordinated Expression	2
SNOMED CT	241578008 |Computed tomography of cervical spine (procedure)|	Precoordinated Expression	1
SNOMED CT	241646009 |Magnetic resonance imaging of cervical spine (procedure)|	Precoordinated Expression	1
SNOMED CT	2847006 |Cervical myelography (procedure)|	Precoordinated Expression	1
SNOMED CT	2904f20f-aaf3-4b68-a580-d84b90f47b93 | Diagnostic radiography of cervical spine with flexion and extension studies (procedure)	Precoordinated Expression	1
SNOMED CT	303611006 |Epidural steroid injection (procedure)|	Precoordinated Expression	2
SNOMED CT	304891004 |Cognitive - behavior therapy (regime/ therapy)|	Precoordinated Expression	1
SNOMED CT	387713003 |Surgical procedure (procedure)|	Precoordinated Expression	1
SNOMED CT	392236004 |Operative procedure on spinal structure (procedure)|	Precoordinated Expression	2
SNOMED CT	398166005 |Performed (qualifier value)|	Precoordinated Expression	27
SNOMED CT	401201003 |Cigarette pack-years (observable entity)|	Precoordinated Expression	1

System	Code	Display Text[a]	References[b]
SNOMED CT	52052004 |Rehabilitation therapy (regime/therapy)|	Precoordinated Expression	2
SNOMED CT	5351000124100 |Primary care clinic (environment)|	Primary Care	1
SNOMED CT	67516001 |Detoxification therapy (regime/therapy)|	Precoordinated Expression	2
SNOMED CT	[370851004 |Evaluation of diagnostic study results (procedure)] ->(363702006 |Has focus (attribute))->[241578008 |Computed tomography of cervical spine (procedure)]	Postcoordinated Expression	1
SNOMED CT	[370851004 |Evaluation of diagnostic study results (procedure)] ->(363702006 |Has focus (attribute))->[241646009 |Magnetic resonance imaging of cervical spine (procedure)]	Postcoordinated Expression	1
SNOMED CT	[370851004 |Evaluation of diagnostic study results (procedure)] ->(363702006 |Has focus (attribute))->[2847006 |Cervical myelography (procedure)]	Postcoordinated Expression	1
SNOMED CT	[370851004 |Evaluation of diagnostic study results (procedure)] ->(363702006 |Has focus (attribute))->[2904f20f-aaf3-4b68-a580-d84b90f47b93 | Diagnostic radiography of cervical spine with flexion and extension studies (procedure)]	Postcoordinated Expression	1
SNOMED CT	[a997cc03-3e99-40eb-833a-6b74c7750a3a |Observation procedure (procedure)] ->(363702006 |Has focus (attribute))->[249931001 |Weakness of neck (finding)]	Neck Weakness	1
SNOMED CT	[a997cc03-3e99-40eb-833a-6b74c7750a3a |Observation procedure (procedure)] ->(363702006 |Has focus (attribute))->[27635008 |Aching pain (finding)]	Aching	1

System	Code	Display Text[a]	References[b]
SNOMED CT	[a997cc03-3e99-40eb-833a-6374cc7750a3a |Observation procedure (procedure)] ->(363702006 |Has focus (attribute))->[36349006 |Burning pain (finding)]	6374cc7750a3a Burning	1
SNOMED CT	[a997cc03-3e99-40eb-833a-6374cc7750a3a |Observation procedure (procedure)] ->(363702006 |Has focus (attribute))->[49575005 |Shooting pain (finding)]	6374cc7750a3a Shooting	1
SNOMED CT	[a997cc03-3e99-40eb-833a-6374cc7750a3a |Observation procedure (procedure)] ->(363702006 |Has focus (attribute))->[55145008 |Stabbing pain (finding)]	6374cc7750a3a Stabbing	1
SNOMED CT	[a997cc03-3e99-40eb-833a-6374cc7750a3a |Observation procedure (procedure)] ->(363702006 |Has focus (attribute))->[723316007 |Electric shock type pain (finding)]	6374cc7750a3a Electric	1
SNOMED CT	[a997cc03-3e99-40eb-833a-6374cc7750a3a |Observation procedure (procedure)] ->(363702006 |Has focus (attribute))->[81680005 |Neck pain (finding)]	6374cc7750a3a Neck Pain	1
SNOMED CT	[a997cc03-3e99-40eb-833a-6374cc7750a3a |Observation procedure (procedure)]- ->(363702006 |Has focus (attribute))->[110483000 | Tobacco user (finding)]	6374cc7750a3a Coordinated Expression	2
SNOMED CT	[a997cc03-3e99-40eb-833a-6374cc7750a3a |Observation procedure (procedure)]- ->(363702006 |Has focus (attribute))->[15167005 | Alcohol abuse (disorder)]	6374cc7750a3a Coordinated Expression	2
SNOMED CT	[a997cc03-3e99-40eb-833a-6374cc7750a3a |Observation procedure (procedure)]- ->(363702006 |Has focus (attribute))->[197480006 |Anxiety disorder (disorder)]	6374cc7750a3a Coordinated Expression	2

System	Code	Display Text[a]	References[b]
SNOMED CT	[a997cc03-3e99-40eb-833a-6374cc7750a3 |Observation procedure (procedure)]- ->(363702006 |Has focus (attribute))->[22253000 |Pain (finding)]- ->(363698007 |Finding site (attribute))->[53120007 |Upper limb structure (body structure)]- ->(272741003 |Laterality (attribute))->[24028007 | Right (qualifier value)];	Right Arm Pain	1
SNOMED CT	[a997cc03-3e99-40eb-833a-6374cc7750a3 |Observation procedure (procedure)]- ->(363702006 |Has focus (attribute))->[22253000 |Pain (finding)]- ->(363698007 |Finding site (attribute))->[53120007 | Upper limb structure (body structure)]- ->(272741003 |Laterality (attribute))->[7771000 |Left (qualifier value)];	Left Arm Pain	1
SNOMED CT	[a997cc03-3e99-40eb-833a-6374cc7750a3 |Observation procedure (procedure)]- ->(363702006 |Has focus (attribute))->[224250004 |Satisfactory living conditions (finding)]	Coordinated Expression	2
SNOMED CT	[a997cc03-3e99-40eb-833a-6374cc7750a3 |Observation procedure (procedure)]- ->(363702006 |Has focus (attribute))->[249944006 |Monoparesis - arm (disorder)]- ->(272741003 |Laterality (attribute))->[24028007 |Right (qualifier value)];	Right Arm Weakness	1
SNOMED CT	[a997cc03-3e99-40eb-833a-6374cc7750a3 |Observation procedure (procedure)]- ->(363702006 |Has focus (attribute))->[249944006 |Monoparesis - arm (disorder)]- ->(272741003	Left Arm Weakness	1

System	Code	Display Text[a]	References[b]
	|Laterality (attribute))->[7771000 |Left (qualifier value)];		
SNOMED CT	[a997cc03-3e99-40eb-833a-|Observation procedure (procedure)]- ->(363702006 |Has focus (attribute))->[276104006 |Home unsettled (finding)]	Coordinated Expression	2
SNOMED CT	[a997cc03-3e99-40eb-833a-|Observation procedure (procedure)]- ->(363702006 |Has focus (attribute))->[301331008 |Finding of body mass index (finding)]	Coordinated Expression	2
SNOMED CT	[a997cc03-3e99-40eb-833a-|Observation procedure (procedure)]- ->(363702006 |Has focus (attribute))->[32911000 | Homeless (finding)]	Coordinated Expression	2
SNOMED CT	[a997cc03-3e99-40eb-833a-|Observation procedure (procedure)]- ->(363702006 |Has focus (attribute))->[35489007 |Depressive disorder (disorder)]	Coordinated Expression	2
SNOMED CT	[a997cc03-3e99-40eb-833a-|Observation procedure (procedure)]- ->(363702006 |Has focus (attribute))->[44077006 |Numbness (finding)]- ->(363698007 |Finding site (attribute))->[43081002 |Skin structure of neck (body structure)];	Neck Numbness	1
SNOMED CT	[a997cc03-3e99-40eb-833a-|Observation procedure (procedure)]- ->(363702006 |Has focus (attribute))->[44077006 |Numbness (finding)]- ->(363698007 |Finding site (attribute))->[53120007 |Upper limb structure (body structure)]- ->(272741003 |Laterality	Right Arm Numbness	1

System	Code	Display Text[a]	References[b]
	(attribute))->[24028007 | Right (qualifier value)];		
SNOMED CT	[a997cc03-3e99-40eb-833a-... |Observation procedure (procedure)]- ->(363702006 |Has focus (attribute))->[44077006 |Numbness (finding)]- ->(363698007 |Finding site (attribute))->[53120007 | Upper limb structure (body structure)]- ->(272741003 |Laterality (attribute))->[7771000 |Left (qualifier value)];	Left Arm Numbness	1
SNOMED CT	[a997cc03-3e99-40eb-833a-... |Observation procedure (procedure)]- ->(363702006 |Has focus (attribute))->[47505003 |Posttraumatic stress disorder (disorder)]	PTSD Related Expression	2
SNOMED CT	[a997cc03-3e99-40eb-833a-... |Observation procedure (procedure)]- ->(363702006 |Has focus (attribute))->[54404000 |Cervical radiculopathy (disorder)]- ->(263502005 |Clinical course (attribute))->[19939008 |Subacute (qualifier value)];	Subacute (less than 3 months)	1
SNOMED CT	[a997cc03-3e99-40eb-833a-... |Observation procedure (procedure)]- ->(363702006 |Has focus (attribute))->[54404000 |Cervical radiculopathy (disorder)]- ->(263502005 |Clinical course (attribute))->[373933003 |Acute onset (qualifier value)];	Acute (less than 2 weeks)	1
SNOMED CT	[a997cc03-3e99-40eb-833a-... |Observation procedure (procedure)]- ->(363702006 |Has focus (attribute))->[54404000 |Cervical	Chronic (greater than 3 months)	1

System	Code	Display Text[a]	References[b]
	radiculopathy (disorder)]->(263502005 |Clinical course (attribute))->[90734009 |Chronic (qualifier value)];		
SNOMED CT	[a997cc03-3e99-40eb-833a-6374cc7750a3 |Observation procedure (procedure)]- ->(363702006 |Has focus (attribute))->[704197006 |Admits alcohol use (finding)]	Pre-coordinated Expression	2
SNOMED CT	[a997cc03-3e99-40eb-833a-6374cc7750a3 |Observation procedure (procedure)]- ->(363702006 |Has focus (attribute))->[733461000 | Cocaine user (finding)]	Pre-coordinated Expression	2
SNOMED CT	[a997cc03-3e99-40eb-833a-6374cc7750a3 |Observation procedure (procedure)]- ->(363702006 |Has focus (attribute))->[78267003 | Cocaine abuse (disorder)]	Pre-coordinated Expression	2
SNOMED CT	[a997cc03-3e99-40eb-833a-6374cc7750a3 |Observation procedure (procedure)]- ->(363702006 |Has focus (attribute))->[82423001 | Chronic pain (finding)]	Pre-coordinated Expression	2
SNOMED CT	[a997cc03-3e99-40eb-833a-6374cc7750a3 |Observation procedure (procedure)]- ->(363702006 |Has focus (attribute))->[b0549379-fc0b-45dc-8a84-befe666432f5 |Residence remote from medical facility (finding)]	Pre-coordinated Expression	2

[a]If a code is used multiple times in the KNART, only the display text of the first instance is shown.

[b]Count of the number of times the given code system and code pair is used in the KNART.

Chapter 12. Behavior Symbols

Table 12.1. 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 12.2. 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 12.3. 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.
◇	Could	An action with this behavior may be included in the set of actions processed by the end user.

Symbol	Name	Definition
➢	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 12.4. Precheck Behavior

Symbol	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 12.5. Cardinality Behavior

Symbol	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 12.6. Item Flags

Symbol	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.

Table 12.7. Read Only Behavior

Symbol	Name	Definition
#	true	For a particular action or action group, specifies whether the elements are read only.

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 (Cervical) Clinical Content White Paper*

[CSD] *Neurosurgery: Radiculopathy (Cervical) Documentation Template Conceptual Structure Document*

[KVRpt] *Neurosurgery: Radiculopathy (Cervical) Documentation Template KNART Validation Report*

Supporting Evidence

[Patel 2012] *Patel, Krupa, Clarissa Diamantidis, Min Zhan, Van Doren Hsu, Loreen D Walker, James Gardner, Matthew R Weir, and Jeffrey C Fink. 2012. "Influence of Creatinine versus Glomerular Filtration Rate on Non-Steroidal Anti-Inflammatory Drug Prescriptions in Chronic Kidney Disease." American Journal of Nephrology 36 (1): 19–26. doi:10.1159/000339439. (link [https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3417055/])*

[Bono, 2011] *Bono, Christopher M, Gary Ghiselli, Thomas J Gilbert, D. Scott Kreiner, Charles Reitman, Jeffrey T Summers, Jamie L Baisden, et al. 2011. "An Evidence-Based Clinical Guideline for the Diagnosis and Treatment of Cervical Radiculopathy from Degenerative Disorders." The Spine Journal: Official Journal of the North American Spine Society 11 (1): 64–72. doi:10.1016/j.spinee.2010.10.023 (link [https://doi.org/10.1016/j.spinee.2010.10.023])*

[Matz 2009] *Matz, Paul G, Paul A Anderson, Michael G Kaiser, Langston T Holly, Michael W Groff, Robert F Heary, Praveen V Mummaneni, et al. 2009. "Introduction and Methodology: Guidelines for the Surgical Management of Cervical Degenerative Disease." Journal of Neurosurgery. Spine 11 (2): 101–3. doi:10.3171/2009.1.SPINE08712. (link [https://doi.org/10.3171/2009.1.SPINE08712])*

[Kuijper 2009] *Kuijper, Barbara, Jos Th J. Tans, Anita Beelen, Frans Nollet, and Marianne de Visser. 2009. "Cervical Collar or Physiotherapy versus Wait and See Policy for Recent Onset Cervical Radiculopathy: Randomised Trial." BMJ (Clinical Research Ed.) 339 (October): b3883. doi:10.1136/bmj.b3883 (link [http://www.bmj.com/content/339/bmj.b3883])*

[Newman 2013] *Newman, Joel S, Barbara N Weissman, Peter D Angevine, Marc Appel, Erin Arnold, Jenny T Bencardino, Ian Blair Fries, et al. 2012. Expert Panel on Musculoskeletal Imaging. American College of Radiology Appropriateness Criteria®: Chronic Neck Pain. American College of Radiology. https://acsearch.acr.org/docs/69426/Narrative/ (link [https://acsearch.acr.org/docs/69426/Narrative/])*

[NLM 2017a] *IBU- ibuprofen tablet [Internet].: National Library of Medicine; 2017. Available from: https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=24731405-219c-79b4-ecf0-7d5fbfda94ba (link [https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=24731405-219c-79b4-ecf0-7d5fbfda94ba])*

[NLM 2017b] *MEDROL- methylprednisolone tablet [Internet].: National Library of Medicine; 2017. Available from: https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=39d5270b-d957-4821-93d6-501b7b9f02d4 (link [https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=39d5270b-d957-4821-93d6-501b7b9f02d4])*

[NLM 2017c] *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; 2017. 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])

[NLM 2017d] *LABEL: Tylenol Regular Strength-acetaminophen tablet [Internet]: National Library of Medicine; 2017. Available from: https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=1622f694-4d63-4c56-8737-fae31f0ecfb7* (link [https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=1622f694-4d63-4c56-8737-fae31f0ecfb7])