SNOMED CT Quick Start

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SNOMED International

Expo 2018 Tutorial

Overview

- A Few Background Notes
- A Glimpse at Benefits
- A Brief Outline of SNOMED CT Features
- How to Learn More About SNOMED CT

A Few Background Notes
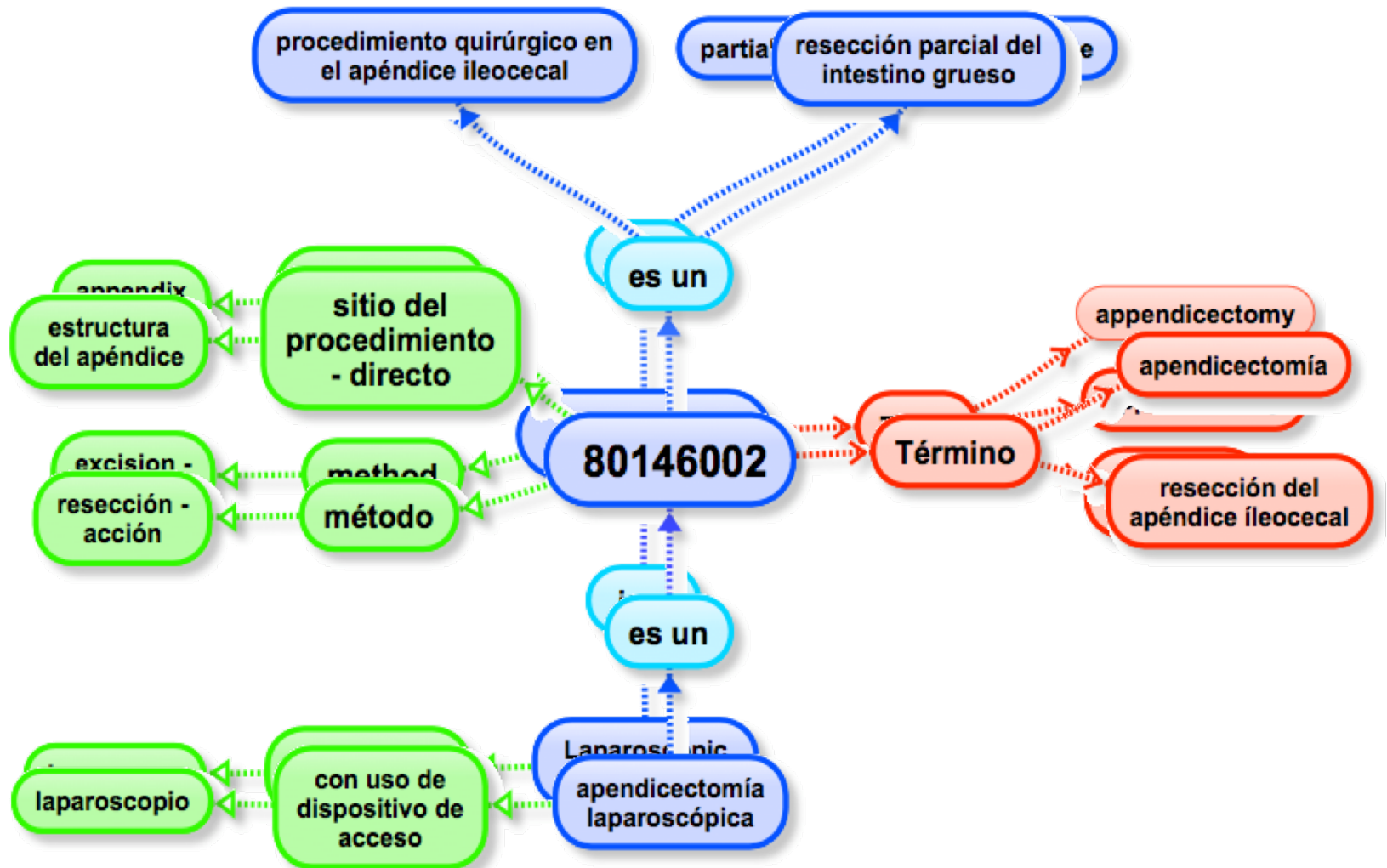
SNOMED Clinical Terms

- Most comprehensive multilingual clinical terminology
- Supports high quality clinical content in health records
- Increasing number of tools and implementations around the world
  - Used in 75 countries
  - Online SNOMED CT Browser
    https://browser.ihtsdotools.org/
  - Examples of deployments
    http://snomedinaction.org/

SNOMED CT Scope
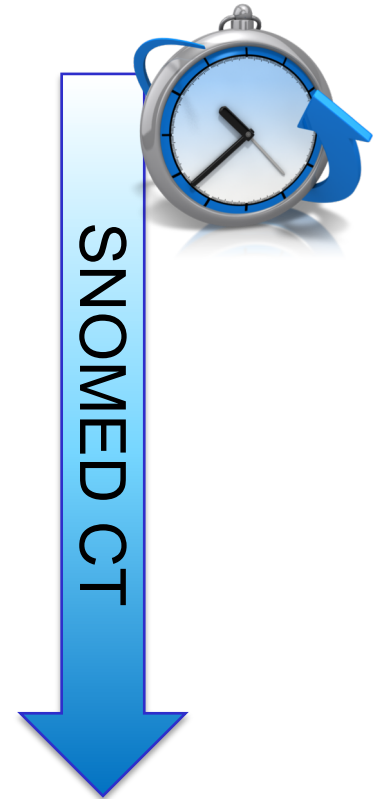
SNOMED CT – Not Just a Code System

SNOMED CT - History

- First released in 2002
  - By the College of American Pathologists (CAP)
  - Original Content from
    - Earlier versions of SNOMED (developed and owned by CAP)
    - Read Codes (owned by and widely used in the UK NHS)

- Design based on
  - Identified user requirements
  - Practical experience
  - Scientific principles established in peer reviewed publications

- Acquired by IHTSDO (SNOMED International) for the public good in 2007

SNOMED CT

SNOMED International

- An international not-for-profit organisation
  - Owned by national Members
  - Governed by General Assembly of its Members
  - Funded by countries based on national wealth
- Maintains and delivers SNOMED CT
  - Free use in Member countries
  - Low cost licenses for institutions in other countries

SNOMED International Members (October 2018)

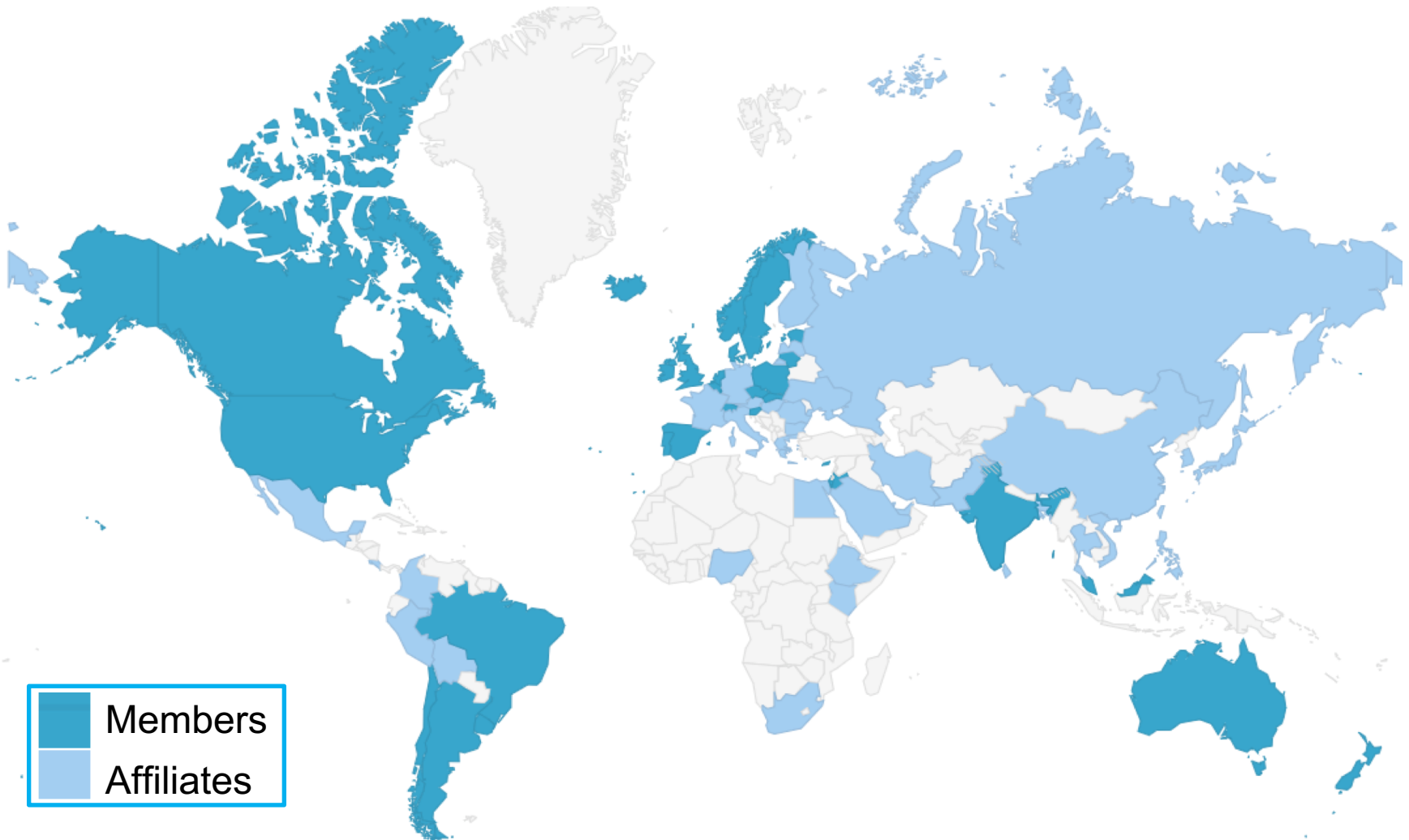|							
	Argentina		Denmark		Luxembourg		Slovak Republic
	Australia		Estonia		Malaysia		Slovenia
	Belgium		Hong Kong		Malta		Spain
	Brazil		Iceland		The Netherlands		Sweden
	Brunei		India		New Zealand		Switzerland
	Canada		Ireland		Norway		United Kingdom
	Chile		Israel		Poland		USA
	Cyprus		Jordan		Portugal		Uruguay
	Czech Republic		Lithuania		Singapore		

SNOMED International Membership Benefits

- Free use of SNOMED CT and related products
- Membership of General Assembly
- Ability to create national extension and translation
  - Financial support provided for translation
  - Ability to request additions to international release
- Access to global community of member countries
  - Forums and networks to learn from and share experiences
- Free new member induction
- Free education and courses
- Free open source tooling
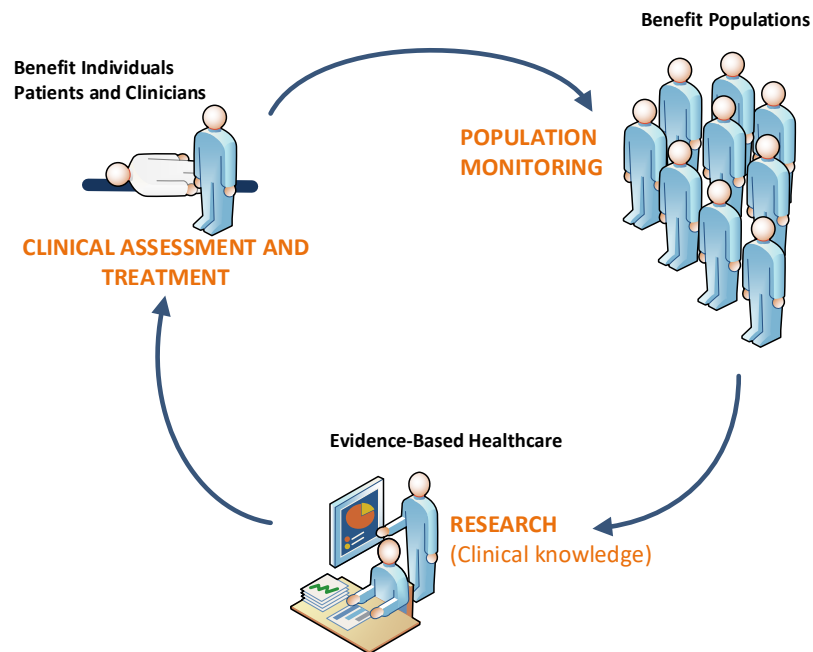
SNOMED Members and Licensees (October 2018)

Legend:
- Members
- Affiliates

Our Vision

By 2020 clinical terminologies will be used globally, which will result in better health, supported by one language of health.

A Glimpse at Benefits

Benefit Individuals Patients and Clinicians

CLINICAL ASSESSMENT AND TREATMENT

Benefit Populations

POPULATION MONITORING

Evidence-Based Healthcare

RESEARCH (Clinical knowledge)

Benefits to **Individual Care**

- SNOMED CT may be used to
  - Improve the care of individual patients by enabling
    - Retrieval of relevant information to better support care
    - Integration with decision support, guidelines and care pathways
    - Reduction in duplication of investigations and interventions
    - Identification of patients requiring follow-up or treatment changes
    - Meaning-based sharing of clinical information

Benefits to **Population Care**

- SNOMED CT may be used to
  - Improve the care of populations by enabling
    - Epidemiological monitoring and reporting
    - Audit of clinical care and service delivery
    - Systems that measure and maximize the delivery of cost-effective treatments and minimize the risk of costly errors
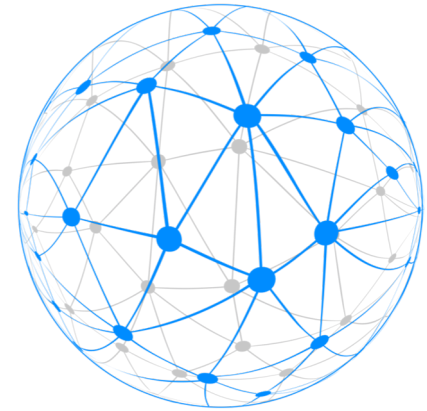
Benefits to **Clinical Research**

- SNOMED CT may be used to
  - Support evidence-based healthcare and clinical knowledge research by enabling
    - Identification of clinical trial candidates
    - Research into the effectiveness of different approaches to disease management
    - Clinical care delivery planning
    - Planning for future service delivery provision

A Quick Outline of SNOMED CT Features

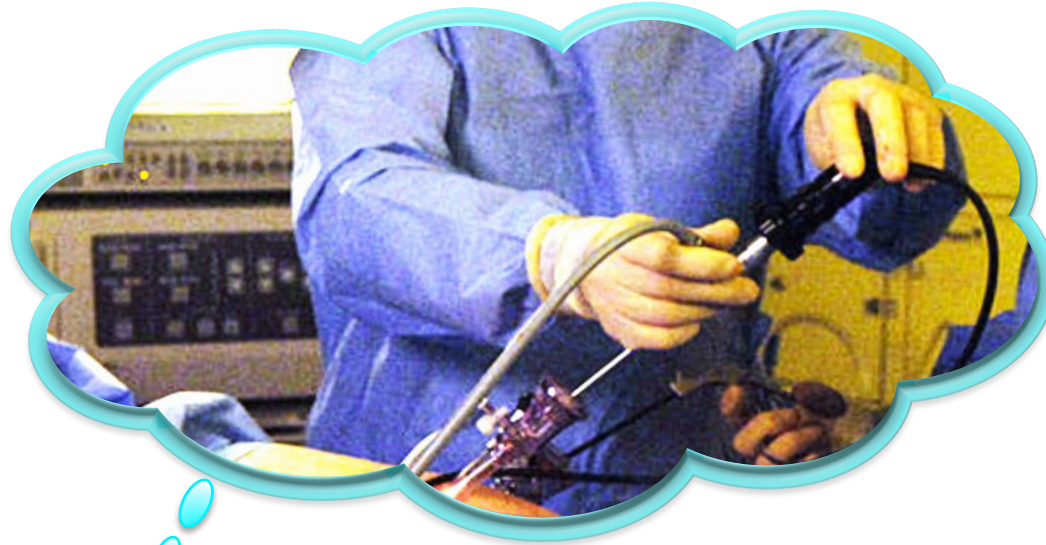# A SNOMED CT Concept is a Clinical Idea with a Unique Identifier

appendicitis

74400008

A SNOMED CT Concept is a Clinical Idea with a Unique Identifier

SNOMED CT is Concept Oriented

- One unique identifier (code) for each distinct concept (clinical idea)
- Terms with the same meaning are linked to the same concept identifier
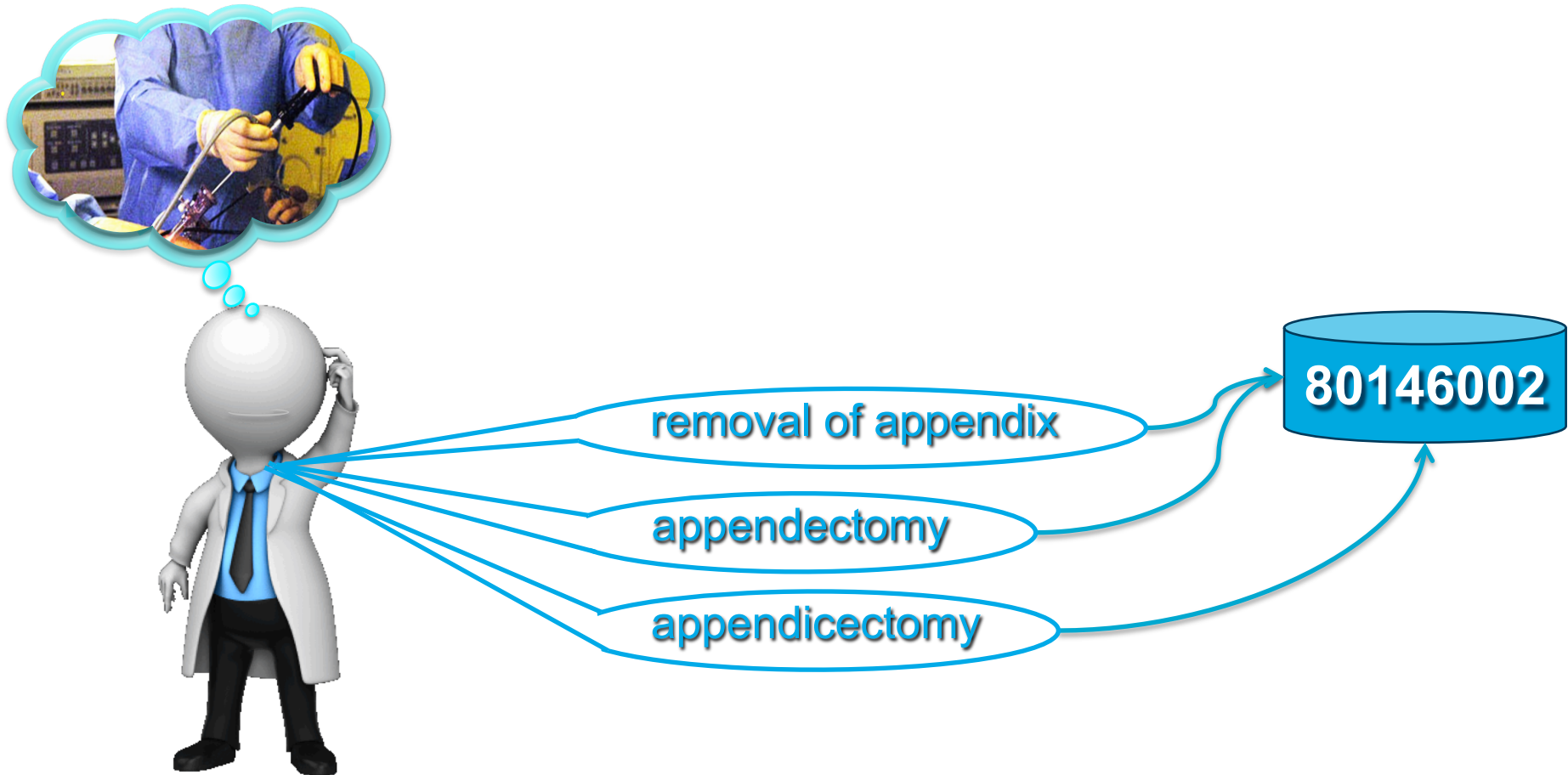
removal of appendix

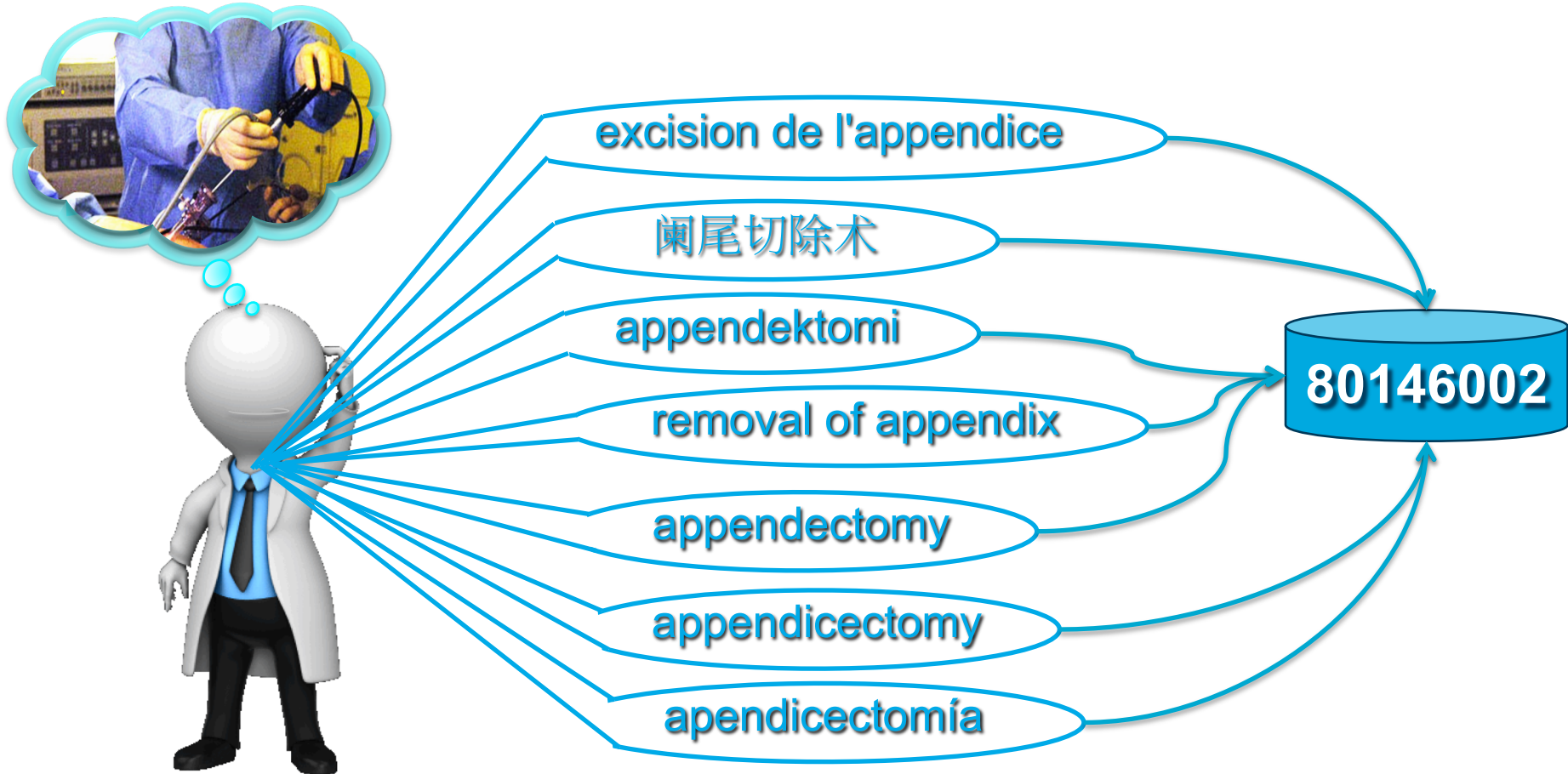appendectomy
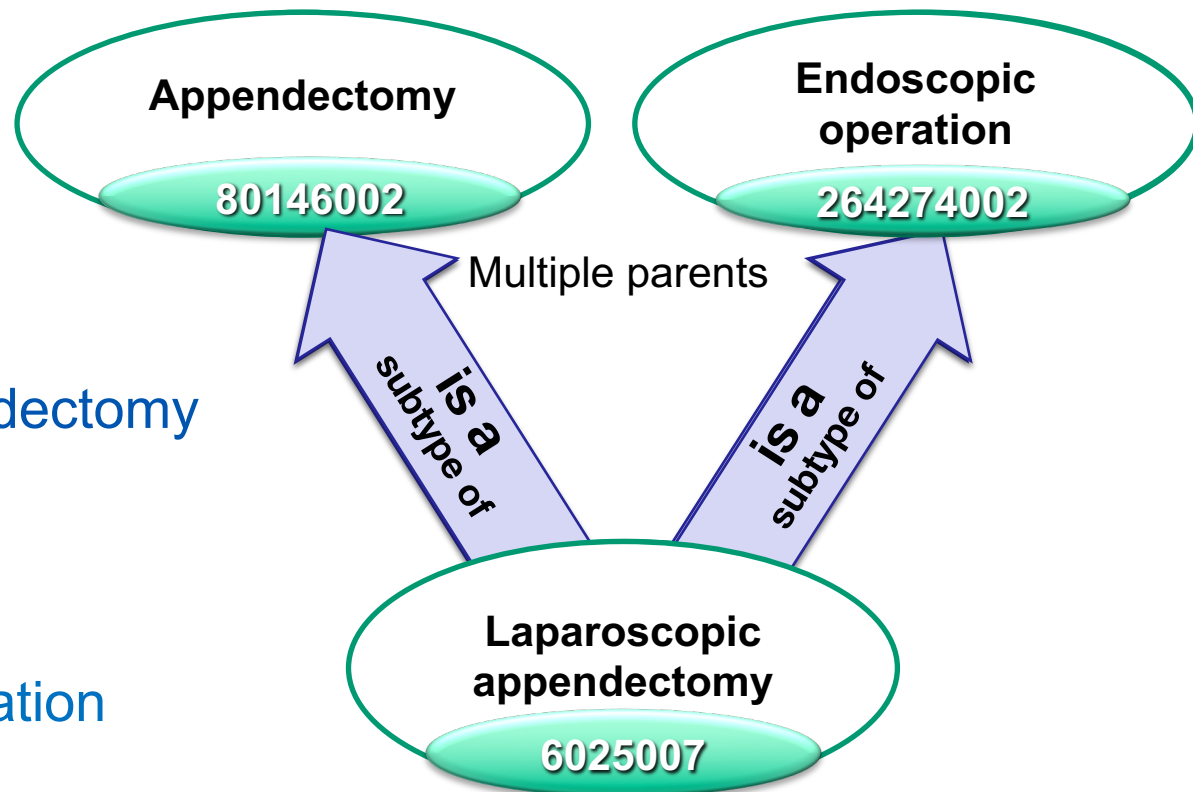
appendicectomy

80146002

SNOMED CT is Concept Oriented

- One unique identifier (code) for each distinct concept (clinical idea)
- Terms with the same meaning are linked to the same concept identifier and those linked terms may be in different languages or dialects

excision de l'appendice

阑尾切除术

appendektomi

removal of appendix

appendectomy

appendicectomy

apendicectomía

80146002

SNOMED CT has a Subtype Polyhierarchy

- In a polyhierarchy each concept can be related to several parent concepts
- Each parent represents a more general concept

Example

- Laparoscopic appendectomy
  is a subtype of
  - Appendectomy
  and is a subtype of
  - Endoscopic operation

Appendectomy
80146002

Endoscopic operation
264274002

Multiple parents

is a subtype of

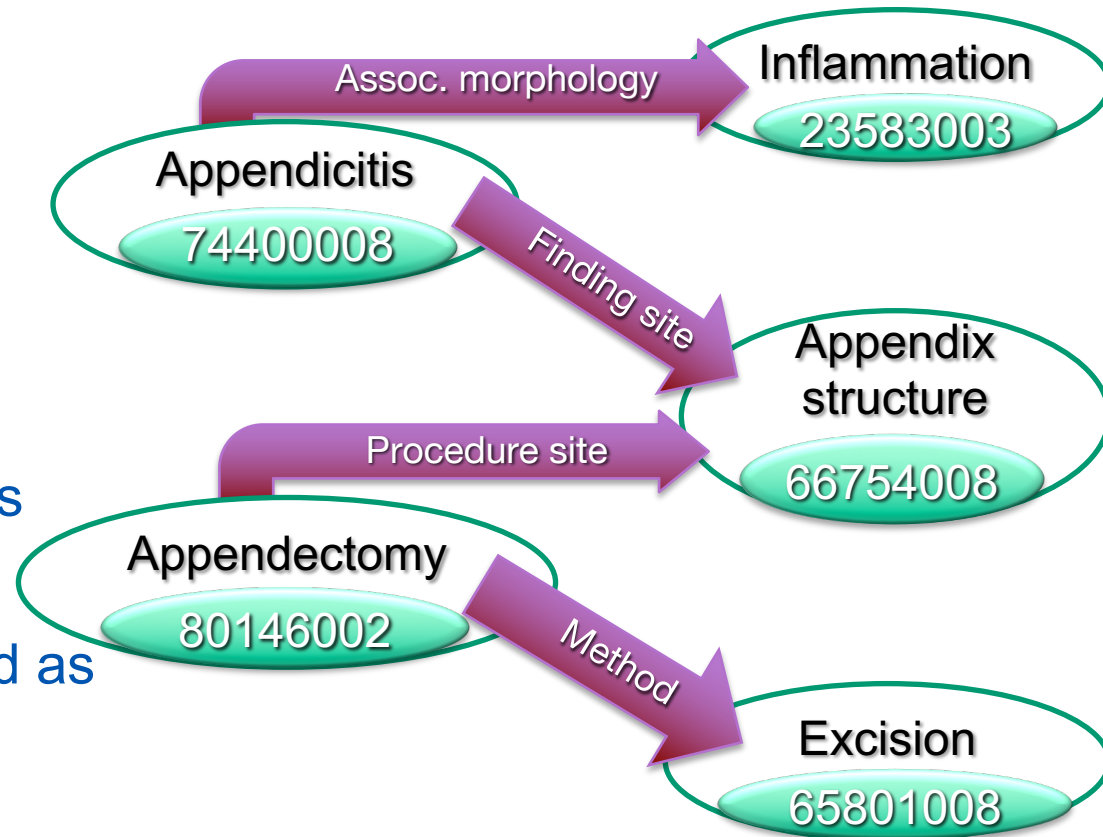**is a subtype of**

Laparoscopic appendectomy
6025007

Design Features of SNOMED CT
Formal Description Logic Definitions

Description logic definitions formally
represent the meaning of concepts

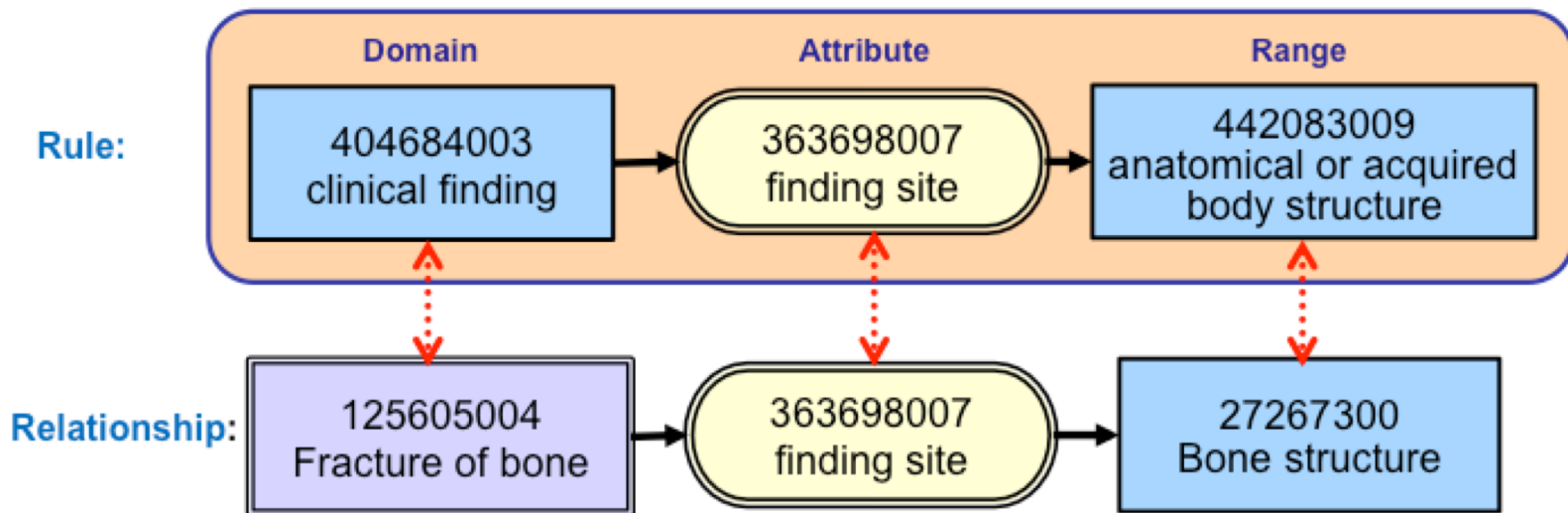**Examples**

- Appendicitis is defined as
  - Inflammation of the
  - Appendix structure
- Appendectomy is defined as
  - Excision of the
  - Appendix structure
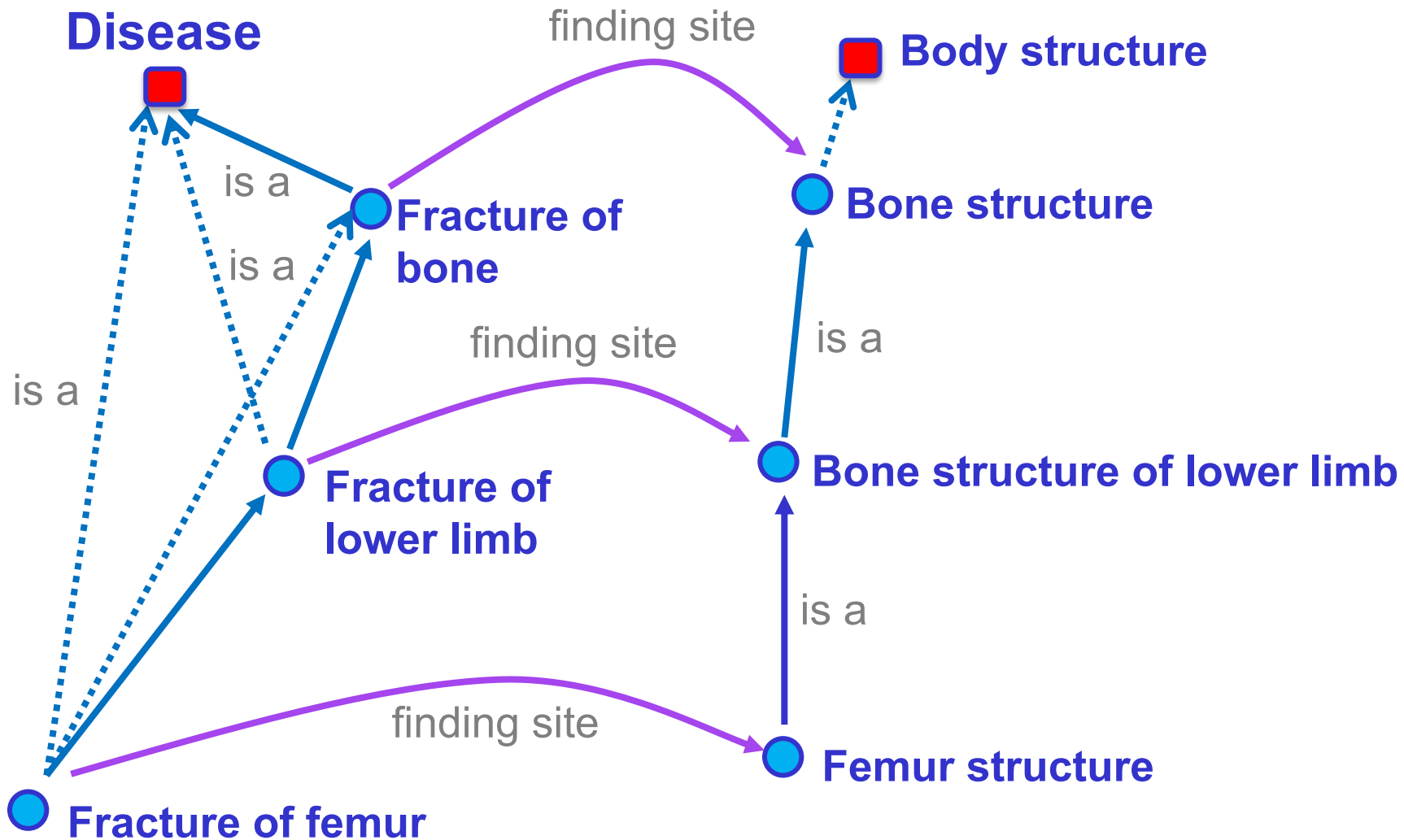
SNOMED CT Concept Model

- The concept model specifies rules on the way concepts of particular types can be formally defined
- For example

- The Machine Readable Concept Model (MRCM) is a computer processable representation of the Concept Model rules distributed with the International Edition of SNOMED CT

Description Logic – Inferred Relationships

SNOMED CT is Designed to be Customizable

- SNOMED CT covers a broad scope at clinically appropriate levels of detail … so it is large
  - Which is essential for a comprehensive terminology
  - But many practical uses only need part of the terminology
  - And some tasks need additional configuration or mapping data
- Reference Sets are a standard mechanism for customizing SNOMED CT for specific requirements
  - Supported customizations include
    - Language and dialect preferences
    - Specification of subsets of concepts for particular uses
    - Ordered list to assist efficient user interface design
    - Maps to or from other code systems

SNOMED CT is Designed to be Extensible

- SNOMED CT International Edition addresses multinational requirements for representing clinical information
  - Additional concepts may be required by some countries, regions or institutions
  - National or local priority areas may require early addition of new content that is not a priority at the international level
- SNOMED International permits its members and licensees to extend the International Edition with national or local content
  - Authorized organizations are assigned a unique *extension namespace* which enables them to generate unique SNOMED CT identifiers
  - This allows them to create their own concepts, descriptions, relationships and reference sets and distribute these as part of their SNOMED CT Extension

Learning More About SNOMED CT

Learning More About SNOMED CT at the Expo

Expo 2018 Tutorials

Thursday

11:00	Introduction to SNOMED CT	(90 min)
13:30	SNOMED CT Implementation Pathways	(90 min)
15:30	SNOMED CT Translation Experiences	(90 min)

Friday

11:00	Introduction to SNOMED CT Reference Sets	(90 min)
13:30	SNOMED CT Analytics and Decision Support	(90 min)

Presentation Streams

A – Demonstrating Implementation Excellence

B – Enhancing Clinical Practice

C – Leading Practices

Learning More
E-Learning Presentations and Courses

- SNOMED E-Learning:
  - http://snomed.org/courses
- Create an account
  - Enroll on a course or browse our learning materials
- SNOMED E-Learning
  - Formal Courses with Assessments (Enrolment fees apply)
    - Foundation   Free to residents of Member territories
    - Implementation   Discounts for residents of Member territories
    - Authoring Level 1   Discounts for residents of Member territories
  - Learning Pathways
    - Data Analysts
    - Developers
  - Presentation Library
    - Accessible to anyone with an account

Learning More
SNOMED CT Document Library http://snomed.org/**doc**

- Introductory Guides
  - Starter Guide http://snomed.org/**sg**
  - Vendor Introduction http://snomed.org/**vendorintro**
  - Member (NRC) Guide http://snomed.org/**nrcguide**
- Specifications and Technical Guidance
  - Release file specifications
  - Computable language specifications
  - Terminology and record services
- Practical Guides

  Search   Decision Support

  Data Entry   Reference Sets

  Analytics   Extensions
- Explore SNOMED CT Content
  - http://snomed.org/**browser**

Any Questions?

Enjoy the Expo!