



# MedDRA Coding and Versioning

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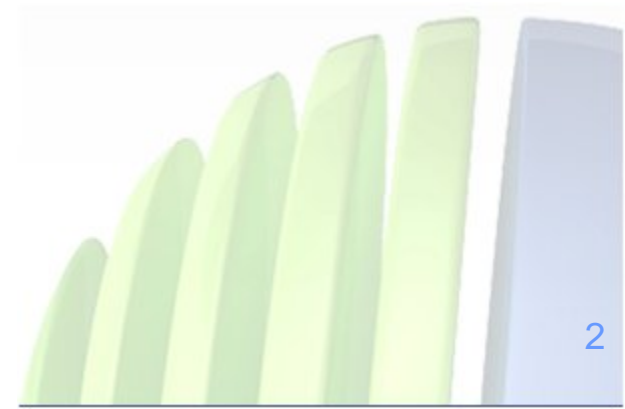




MedDRA

# Agenda

- ICH MedDRA coding guide
- Coding errors identified by FDA
- Factors impact coding quality
- MSSO Versioning for Clinical Trial Best Practice Document
- ICH MedDRA versioning guide
  - Versioning timing
  - Versioning methodologies
- MedDRA coding quiz





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# ICH MedDRA Coding Guide















# MedDRA Term Selection: PTC

- Synchronized with MedDRA Version
- Available on MedDRA.org website
- Promote accurate and consistent coding





MedDRA Version 19.1 English September 2016

**MedDRA Points to Consider (Available in English and Japanese)**

-    [MedDRA Term Selection: Points to Consider Release 4.12 Based on MedDRA Version 19.1](#)
-   [Redline of Changes to MedDRA Term Selection: Points to Consider Release 4.12 Based on MedDRA Version 19.1](#)
-    [MedDRA Data Retrieval and Presentation: Points to Consider Release 3.12 Based on MedDRA Version 19.1](#)
-   [Redline of Changes to MedDRA Data Retrieval and Presentation: Points to Consider Release 3.12 Based on MedDRA Version 19.1](#)

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**Additional MedDRA Guides**

-  [Introductory Guide MedDRA Version 19.1](#)
-  [Introductory Guide for Standardised MedDRA Queries \(SMQs\) Version 19.1](#)
-  [What's New MedDRA Version 19.1](#)
-  [MedDRA Distribution File Format Document Version 19.1](#)



# Use Current LLTs

- Lowest Level Term that most accurately reflects the reported verbatim information should be selected
- Degree of specificity may be challenging
  - Example: "*Abscess on face*" → select "*Facial abscess*" not simply "*Abscess*"
- Select current LLTs only
  - Non-current terms for legacy conversion/historical purposes



# Do Not Add Information

- Do not make diagnosis if only signs/symptoms reported

Reported	LLT Selected	Comment
Abdominal pain, increased serum amylase, and increased serum lipase	Abdominal pain	It is inappropriate to assign an LLT for diagnosis of “pancreatitis”
	Serum amylase increased	
	Lipase increased	



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# Do Not Alter MedDRA

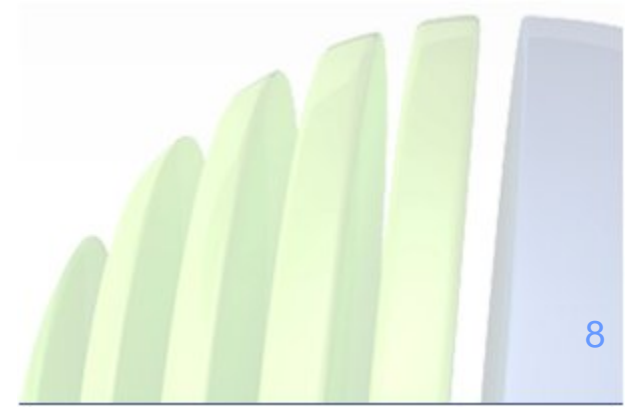
- MedDRA is a standardized terminology with a pre-defined term hierarchy
- Users must not make *ad hoc* structural alterations, including changing the primary SOC allocation
- If terms are incorrectly placed, submit a change request to the MSSO





# Term Selection Points

- Diagnoses and Provisional Diagnoses with or without Signs and Symptoms
- Death and Other Patient Outcomes
- Suicide and Self-Harm
- Conflicting/Ambiguous/Vague Information
- Combination Terms
- Age vs. Event Specificity
- Body Site vs. Event Specificity
- Location-Specific vs. Microorganism-Specific Information
- Modification of Pre-existing Conditions
- Exposures During Pregnancy and Breast Feeding
- Congenital Terms
- Neoplasms
- Medical and Surgical Procedures
- Investigations







# Term Selection Points (cont)

- Medication Errors, Accidental Exposures and Occupational Exposures
- Misuse, Abuse and Addiction
- Transmission of Infectious Agent via Product
- Overdose, Toxicity and Poisoning
- Device-related Terms
- Drug Interactions
- No Adverse Effect and "Normal" Terms
- Unexpected Therapeutic Effect
- Modification of Effect
- Social Circumstances
- Medical and Social History
- Indication for Product Use
- Off Label Use
- Product Quality Issues



# Diagnoses and Provisional Diagnoses

SINGLE DIAGNOSIS	
DEFINITIVE DIAGNOSIS	PROVISIONAL DIAGNOSIS
<p>Single diagnosis without signs and symptoms</p> <ul style="list-style-type: none"> <li>•Diagnosis (only possible option)</li> </ul>	<p>Single provisional diagnosis without signs and symptoms</p> <ul style="list-style-type: none"> <li>•Provisional diagnosis (only possible option)</li> </ul>
<p>Example: “<i>Myocardial infarction</i>” → select “<i>Myocardial infarction</i>”</p>	<p>Example: “<i>Possible myocardial infarction</i>” → select “<i>Myocardial infarction</i>” (select term as if definitive diagnosis)</p>

Similar principles apply for multiple diagnoses

# Diagnoses and Provisional Diagnoses (cont)

SINGLE DIAGNOSIS	
DEFINITIVE DIAGNOSIS	PROVISIONAL DIAGNOSIS
<p>Single diagnosis with signs/symptoms</p> <ul style="list-style-type: none"> <li>•Preferred: Diagnosis only</li> </ul>	<p>Single provisional diagnosis with signs/symptoms</p> <ul style="list-style-type: none"> <li>•Preferred: Provisional diagnosis and signs/symptoms</li> </ul>
<p>Example: <i>“Anaphylactic reaction with rash, dyspnoea, hypotension, and laryngospasm”</i> → select <i>“Anaphylactic reaction”</i></p>	<p>Example: <i>“Possible myocardial infarction with chest pain, dyspnoea, diaphoresis”</i> → select <i>“Myocardial infarction”</i> <i>“Chest pain”</i>, <i>“Dyspnoea”</i>, and <i>“Diaphoresis”</i></p>

Similar principles apply for multiple diagnoses

# Diagnoses and Provisional Diagnoses (cont)

SINGLE DIAGNOSIS	
DEFINITIVE DIAGNOSIS	PROVISIONAL DIAGNOSIS
<p>Single diagnosis with signs/symptoms</p> <ul style="list-style-type: none"> <li>•Alternate: Diagnosis and signs/symptoms</li> </ul>	<p>Single provisional diagnosis with signs/symptoms</p> <ul style="list-style-type: none"> <li>•Alternate: Signs/symptoms only (as provisional diagnosis may change)</li> </ul>
<p>Example: <i>“Anaphylactic reaction with rash, dyspnoea, hypotension, and laryngospasm”</i> → select <i>“Anaphylactic reaction”, “Rash”, “Dyspnoea”, Hypotension”, and “Laryngospasm”</i></p>	<p>Example: <i>“Possible myocardial infarction with chest pain, dyspnoea, diaphoresis”</i> → select <i>“Chest pain”, “Dyspnoea”, and “Diaphoresis”</i></p>

Similar principles apply for multiple diagnoses



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# Coding Errors Identified By FDA



# Soft Coding

- Selecting a term which is both less specific and less severe than another MedDRA term is “soft coding”
- Example: “Liver failure” coded as hepatotoxicity or increased LFTs
- Example: “Aplastic anemia” coded as unspecified anemia
- Example: “Rash subsequently diagnosed as Stevens Johnson syndrome” coded as rash

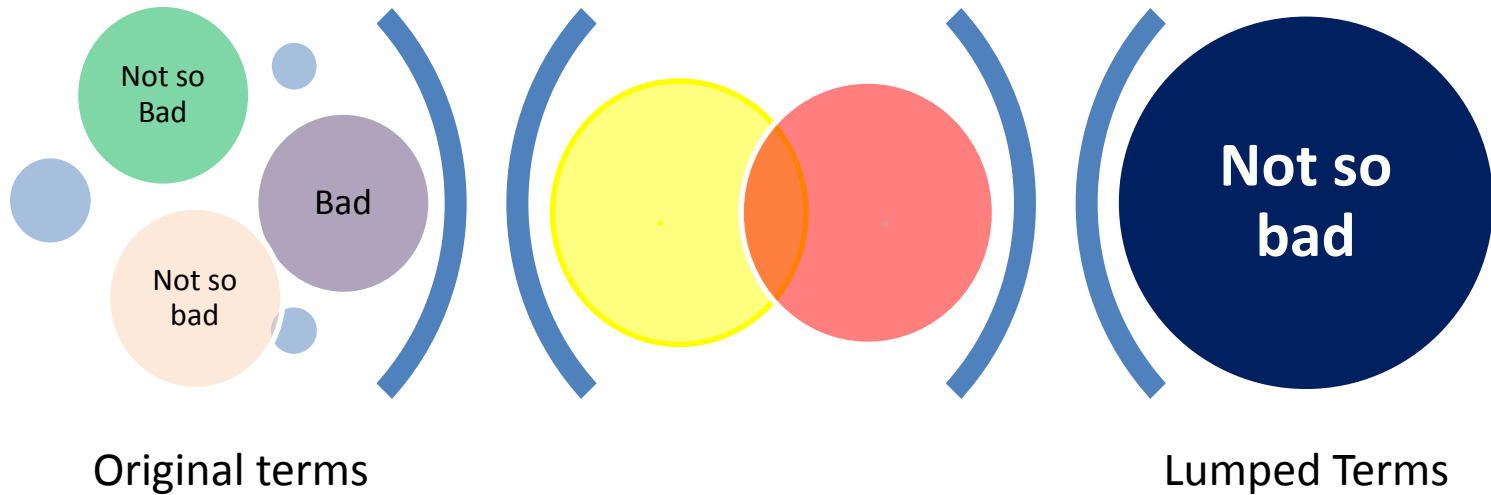
Acknowledgement: Dr. Toni Piazza-Hepp, Office of Surveillance and Epidemiology, CDER

# Missed Concepts

- All medical concepts described after the product is taken should be coded
- Example: “The patient took drug X and developed alopecia, increased LFTs and pancreatitis”. Manufacturer only codes alopecia and increased LFTs (missed concept of pancreatitis)
- Example: “The patient took drug X and developed interstitial nephritis which later deteriorated into renal failure”. Manufacturer only codes interstitial nephritis (missed renal failure concept)

Acknowledgement: Dr. Toni Piazza-Hepp, Office of Surveillance and Epidemiology, CDER

# Inappropriate Lumping



Acknowledgement: Dr. Christopher Breder, Office of New Drug, CDER  
Disclaimer: The views expressed represent my opinions and do not necessarily represent the views of the FDA





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# Inappropriate Lumping Example

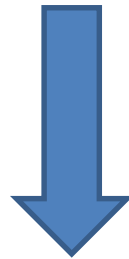
• laryngospasm

OR

• angioedema

+

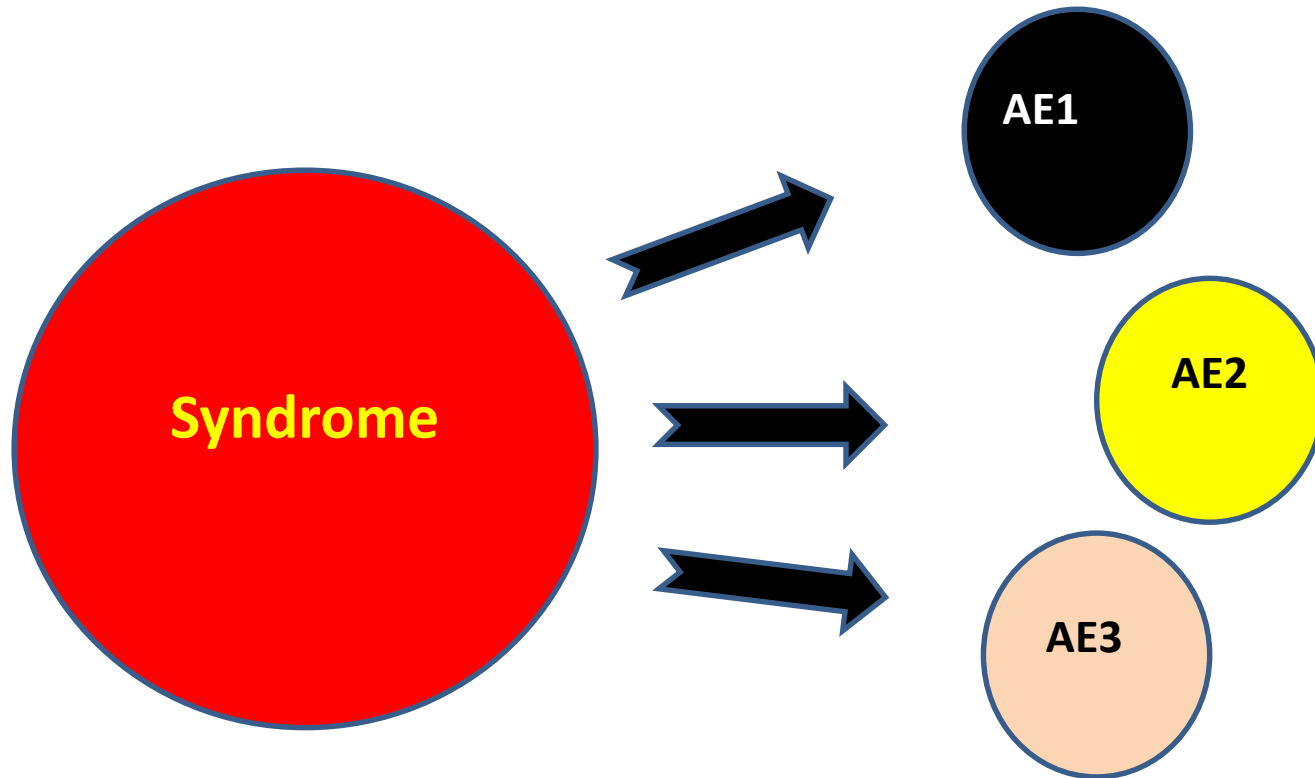
• urticaria



• Drug allergy



# Inappropriate Splitting



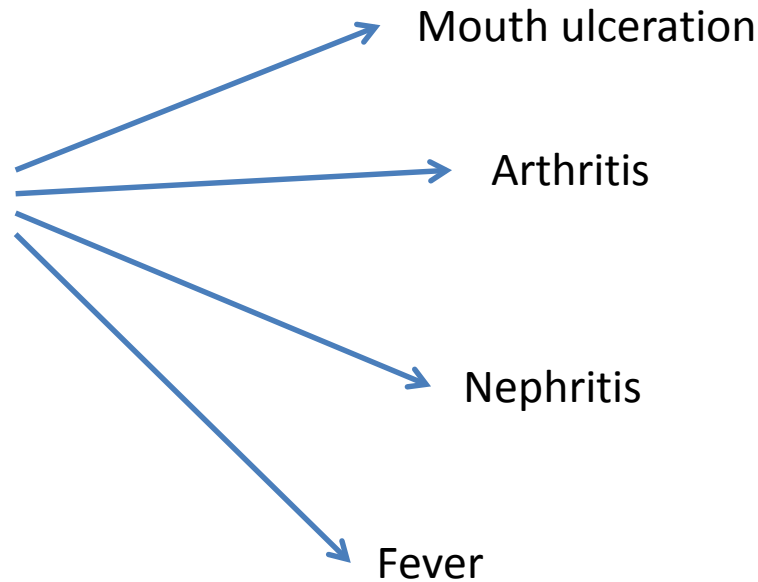
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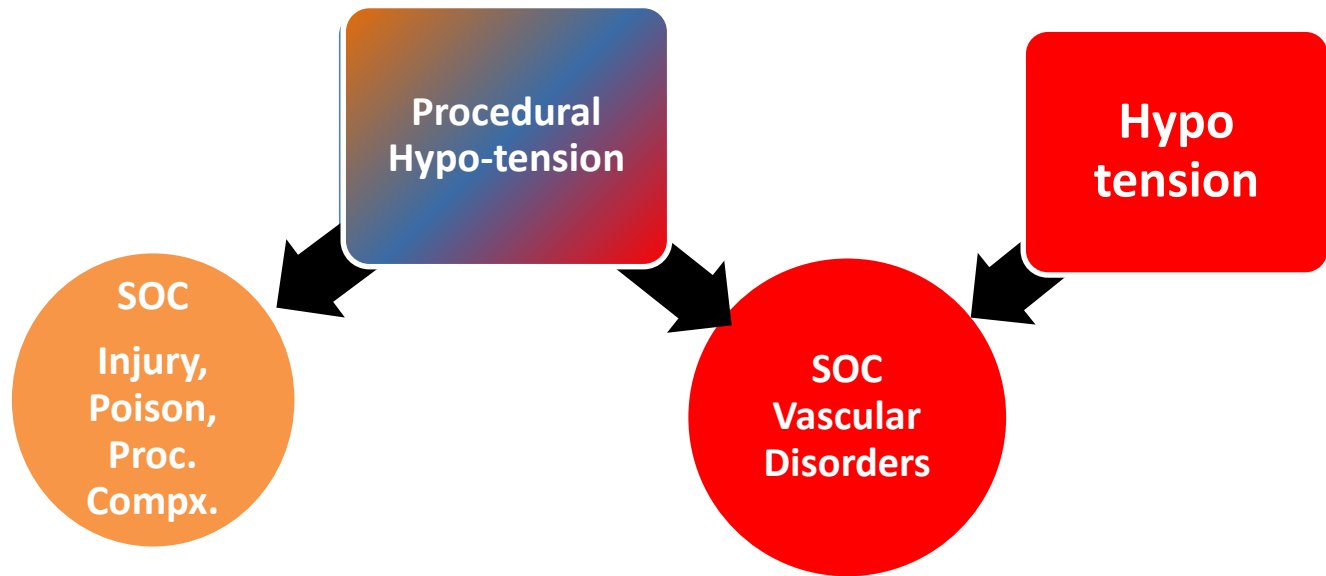
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# Inappropriate Splitting Example

• Lupus



# Event “Dilution”



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# Factors Impact Coding Quality





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# Quality of Source Data

Loss of brain?



Dependence symptom on pachinko pinball machine

Abdominal discomfort secondary to airplane food ingestion





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# Coding Conventions

- ICH Coding Guide
- Company specific coding convention



Without conventions



With conventions



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# Training

- Training on MedDRA
- Training on ICH Coding Guide
- Training on company coding guide
- Training on company tools used in coding, such as a MedDRA Browser
- Training on the job by experience colleagues





- Opportunity to identify coding errors and bias and deviation from the coding convention
- QC scope: manually coded terms and auto-encoded terms
- Autoencoder pitfalls
  - “Allergic to CAT scan” autoencoded as:  
*LLT Allergic to cats*



- Communicate coding issues with the coding team
  - Between QC/QA staff and coding staff
  - Between sponsor and CRO
- Establish corrective and preventive actions
- Follow up on results





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# MSSO Versioning for Clinical Trial Best Practice Document





# MedDRA Implementation and Versioning for CTs

- Available on MedDRA.org website

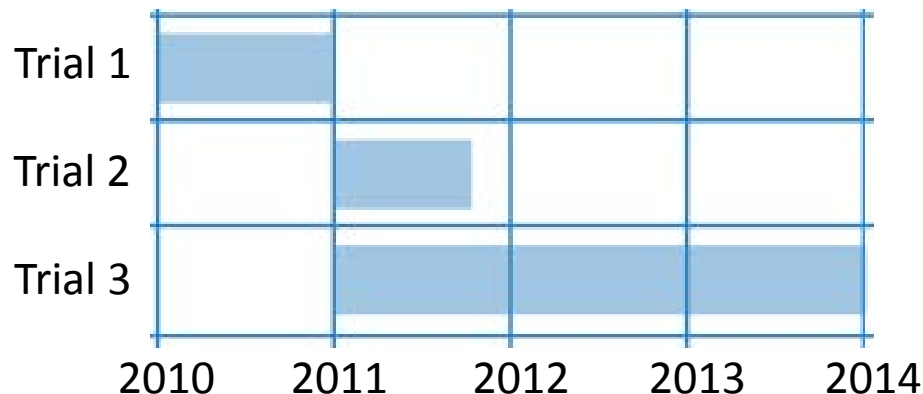
The screenshot shows the MedDRA.org website's navigation bar with buttons for Home, About MedDRA, How to Use (highlighted in green), Training, Subscription, News & Events, and a plus sign. Below the navigation bar is the breadcrumb "Support Documentation / How to Use / Home". The main content area contains the text: "Essential supporting documentation is maintained with each release of MedDRA in all the languages, except for the two ICH Points to Consider (PTC) documents only available in English and Japanese." Below this text is a language selection dropdown menu set to "English". A blue header bar reads "MSSO Best Practice Documents (click here)". Underneath, a "Best Practice" section lists four documents, each with a red PTC icon: "Single Case Reporting using Semi-annual Version Control", "Implementation of MedDRA Supplemental Terms", "Primary System Organ Class (SOC) Allocation in MedDRA", and "MedDRA Implementation and Versioning for Clinical Trials".



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# MedDRA Implementation and Versioning for CTs (cont.)

- Six options with Option 6 being the commonly adopted practice
- Option 6: Re-code the trial data for all trials in a project on an ongoing basis with the most recent version of MedDRA





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# ICH MedDRA Versioning Guide





# MedDRA Versioning – PTC Document

- Section 4 of MedDRA Term Selection: PTC Document
- Timing of version implementation

## Date of New Reporting Version for Individual Case Safety Reporting

A new release version of MedDRA should become the reporting version on the first Monday of the second month after it is released. To synchronise this event over the three ICH regions, the MSSO recommends midnight GMT, Sunday to Monday, for the switchover. For example :

- 1 March – MedDRA X.0 released
- First Monday of May – MedDRA X.0 becomes the reporting version
- 1 September – MedDRA X.1 released
- First Monday of November – MedDRA X.1 becomes the reporting version

# MedDRA Versioning – PTC Document (cont.)

- Versioning methodologies

Method	Description	Resource Intensity	Data Accuracy
1	Begin to use new version for coding new data; no recoding of existing data	Least	Least
2	Identify verbatim terms linked to non-current LLTs and recode existing data	↓	↓
3	Identify verbatim terms linked to non-current LLTs and recode existing data and Recode verbatim terms to new LLTs that are direct or lexical matches		
4	Identify verbatim terms linked to non-current LLTs and recode existing data and Recode verbatim terms to new LLTs that are direct or lexical matches and Recode verbatim terms to new LLTs that are more accurate concepts	Most	Most





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# MedDRA Coding Quiz





# Which LLT Would you Select?

## Verbatim:

“She had a pathologic fracture of the neck of the left femur”

- A. Femoral neck fracture
- B. Pathologic fracture of neck of femur
- C. Fracture of neck of femur
- D. Femur fracture



# Which LLT Would you Select?

Verbatim:

"Hypernatraemia (Serum sodium = 115 mEq/L)"

- A. Serum sodium abnormal
- B. Hypernatraemia
- C. Hyponatraemia
- D. Serum sodium decreased





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Medical Dictionary  
for Regulatory Activities

Questions?

