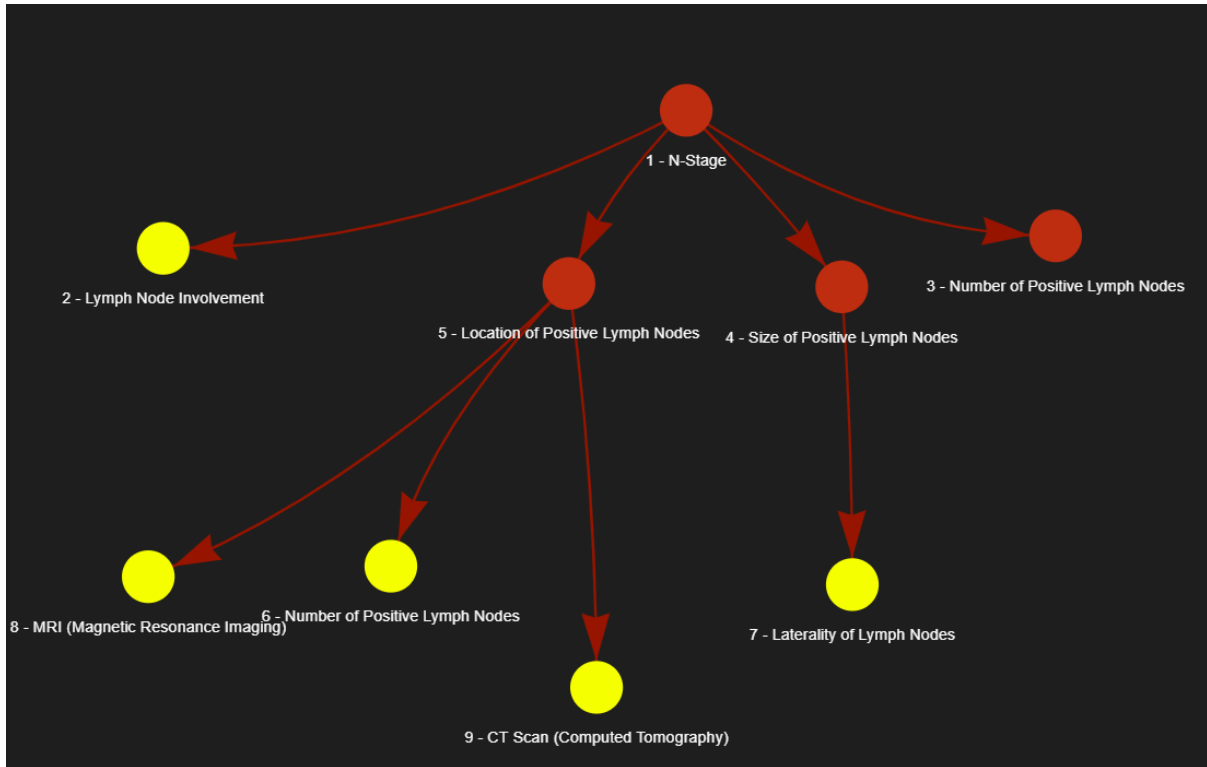


## N-Nodes-Max

*Inputs to this were only the node identifiers and their states and the edges. CPTs also however are just placeholders with uniform distribution.*



**Nodes Informations** (extracted using the tool):

1. **Id:** N\_Stage\_1

**Type:** Decision Node

**Observability:** Needs to be Predicted

**States:** ['present', 'absent']

**Label:** Nearby Lymph Nodes Cancer Staging

**Description:** This node represents the staging of cancer in nearby lymph nodes, which is crucial for determining the extent of cancer spread and planning treatment. It indicates whether cancer is present in the lymph nodes adjacent to the primary tumor site.

**Node States:**

State Name	State Description
present	Cancer is present in the nearby lymph nodes, indicating potential spread of the disease.
absent	No cancer is detected in the nearby lymph nodes, suggesting no local spread of the disease.

**Entities Information:**

Ontology Name	Label	Description
MeSH	Lymph Nodes	Small, bean-shaped organs located throughout the lymphatic system that filter lymph and store white blood cells.
MeSH	Neoplasm Staging	Methods which attempt to express in replicable terms the extent of the neoplasm in the patient.
SNOMED-CT	Lymph node structure	Anatomical structure that is part of the lymphatic system, involved in the filtration of lymph and immune response.
SNOMED-CT	Cancer staging	The process of determining the extent and spread of cancer within the body.

Wikidata	Lymph node	An organ of the lymphatic system and the adaptive immune system that is widely present throughout the body.
Wikidata	Cancer staging	The process of determining the size and spread of cancer within the body.

2. **Id:** Lymph\_Node\_Involvement\_2

**Type:** Examination Result

**Observability:** Observed

**States:** ['present', 'absent']

**Label:** Lymph Node Cancer Involvement Examination

**Description:** This node represents the result of a diagnostic examination to determine whether cancer has spread to nearby lymph nodes. It is an observed result indicating the presence or absence of cancerous involvement in the lymph nodes.

**Node States:**

State Name	State Description
present	Cancer involvement in the lymph nodes is present, indicating that cancer has spread to these nodes.
absent	Cancer involvement in the lymph nodes is absent, indicating that there is no evidence of cancer spread to these nodes.

**Entities Information:**

Ontology Name	Label	Description
MeSH	Lymph Nodes	Small, bean-shaped organs located throughout the lymphatic system that filter lymph and store white blood cells.
MeSH	Laryngeal Neoplasms	Tumors or cancer of the LARYNX.
MeSH	Physical Examination	Systematic and thorough inspection or testing of a patient for signs of disease.
SNOMED-CT	Lymph node structure	Anatomical structure that is part of the lymphatic system, involved in the filtration of lymph and immune response.
SNOMED-CT	Malignant neoplasm	A cancerous growth that has the potential to invade and destroy nearby tissue and spread to other parts of the body.
SNOMED-CT	Examination - action	The act of inspecting or testing something, typically as part of a medical assessment.
Wikidata	Lymph node	An organ of the lymphatic system and the adaptive immune system that is widely present throughout the body.
Wikidata	Laryngeal cancer	Cancer that occurs in the larynx, the voice box.
Wikidata	Medical examination	A process by which a medical professional investigates the body of a patient for signs of disease.

3. **Id:** Number\_of\_Positive\_Lymph\_Nodes\_3

**Type:** Patient Situation

**Observability:** Unobserved

**States:** ['present', 'absent']

**Label:** Number of Positive Lymph Nodes

**Description:** This node represents the count of lymph nodes that have been identified as positive for cancer involvement. The presence of positive lymph nodes is a critical factor in cancer staging, prognosis, and treatment planning. It indicates the spread of cancer to the lymphatic system, which can affect the overall treatment strategy and expected outcomes.

**Node States:**

State Name	State Description
present	The state 'present' indicates that there are one or more lymph nodes that have been identified as positive for cancer involvement. This suggests that the cancer has spread to the lymphatic system, which is an important consideration in staging and treatment.
absent	The state 'absent' indicates that no lymph nodes have been identified as positive for cancer involvement. This suggests that there is no detectable spread of cancer to the lymphatic system, which can influence the staging and treatment approach.

**Entities Information:**

Ontology Name	Label	Description
MeSH	Lymph Nodes	Small, bean-shaped organs located throughout the lymphatic system that filter lymph and store white blood cells.
SNOMED-CT	Lymph node structure	Anatomical structure that is part of the lymphatic system, involved in the filtration of lymph and immune response.
Wikidata	Lymph node	An organ of the lymphatic system and the adaptive immune system that is widely present throughout the body.

4. **Id:** Size\_of\_Positive\_Lymph\_Nodes\_4

**Type:** Patient Situation

**Observability:** Unobserved

**States:** ['n0', 'n1', 'n2', 'n3a', 'n3b', 'n3c', 'large\_positive\_lymph\_nodes', 'small\_positive\_lymph\_nodes', 'present', 'absent']

**Label:** Size of Positive Lymph Nodes

**Description:** This node represents the classification of lymph node involvement based on size, which is crucial for cancer staging and determining the extent of metastasis. The size and number of positive lymph nodes are important prognostic factors in oncology, influencing treatment decisions and outcomes.

**Node States:**

State Name	State Description
n0	No regional lymph node metastasis.
n1	Metastasis in 1 to 3 axillary lymph nodes.
n2	Metastasis in 4 to 9 axillary lymph nodes, or in clinically apparent internal mammary lymph nodes in the absence of axillary lymph node metastasis.
n3a	Metastasis in 10 or more axillary lymph nodes, or in infraclavicular (level III axillary) lymph nodes.
n3b	Metastasis in clinically apparent ipsilateral internal mammary lymph nodes and in axillary lymph nodes.
n3c	Metastasis in ipsilateral supraclavicular lymph nodes.
large_positive_lymph_nodes	Presence of large positive lymph nodes, indicating significant lymph node involvement.
small_positive_lymph_nodes	Presence of small positive lymph nodes, indicating less extensive lymph node involvement.
present	Positive lymph nodes are present, indicating metastasis.
absent	No positive lymph nodes are present, indicating no metastasis.

**Entities Information:**

Ontology Name	Label	Description
MeSH	Lymph Nodes	Small, bean-shaped organs located throughout the lymphatic system

		that filter lymph and store white blood cells.
SNOMED-CT	Lymph node structure	Anatomical structure that is part of the lymphatic system, involved in the filtration of lymph and immune response.
Wikidata	Lymph node	An organ of the lymphatic system and the adaptive immune system that is widely present throughout the body.

5. **Id:**Location\_of\_Positive\_Lymph\_Nodes\_5

**Type:** Patient Situation

**Observability:** Unobserved

**States:** ['tnm\_klassifikation\_2017\_\_\_lateralität\_einseitig\_unilateral', 'tnm\_klassifikation\_2017\_\_\_lateralität\_beidseitig\_bilateral', 'tnm\_klassifikation\_2017\_\_\_effekt\_auf\_n\_stage', 'present', 'absent']

**Label:** Location of Positive Lymph Nodes

**Description:** This node represents the location of lymph nodes that have tested positive for cancer involvement. It is crucial for determining the extent of cancer spread and planning treatment strategies. The location can affect the staging of cancer and influence the prognosis and therapeutic approach.

**Node States:**

State Name	State Description
tnm_klassifikation_2017___lateralität_einseitig_unilateral	The positive lymph nodes are located on one side of the body, indicating unilateral involvement.
tnm_klassifikation_2017___lateralität_beidseitig_bilateral	The positive lymph nodes are located on both sides of the body, indicating bilateral involvement.
tnm_klassifikation_2017___effekt_auf_n_stage	The location of the positive lymph nodes has an effect on the N stage of the TNM classification, which is used to describe the extent of cancer spread to lymph nodes.
present	Positive lymph nodes are present, indicating cancer involvement.
absent	No positive lymph nodes are present, indicating no detectable cancer involvement in the lymph nodes.

**Entities Information:**

Ontology Name	Label	Description
MeSH	Lymph Nodes	Small, bean-shaped organs located throughout the lymphatic system that filter lymph and store white blood cells.
SNOMED-CT	Lymph node structure	Anatomical structure that is part of the lymphatic system, involved in the filtration of lymph and immune response.
Wikidata	Lymph node	An organ of the lymphatic system and the adaptive immune system that is widely present throughout the body.

6. **Id:**Number\_of\_Positive\_Lymph\_Nodes\_6

**Type:** Examination Result

**Observability:** Observed

**States:** ['present', 'absent']

**Label:** Number of Positive Cancerous Lymph Nodes Examination

**Description:** This node represents the examination result indicating whether cancer is present in the lymph nodes. The presence of cancerous lymph nodes is a critical factor in cancer staging and can influence treatment decisions.

**Node States:**

State Name	State Description
present	Cancer is detected in the lymph nodes, indicating metastasis or spread of cancer to these nodes.

absent	No cancer is detected in the lymph nodes, suggesting no metastasis to these nodes.
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**Entities Information:**

Ontology Name	Label	Description
MeSH	Lymph Nodes	Small, bean-shaped organs located throughout the lymphatic system that filter lymph and store white blood cells.
MeSH	Laryngeal Neoplasms	Tumors or cancer of the LARYNX.
MeSH	Physical Examination	Systematic and thorough inspection or testing of a patient for signs of disease.
SNOMED-CT	Lymph node structure	Anatomical structure that is part of the lymphatic system, involved in the filtration of lymph and immune response.
SNOMED-CT	Malignant neoplasm	A cancerous growth that has the potential to invade and destroy nearby tissue and spread to other parts of the body.
SNOMED-CT	Examination - action	The act of inspecting or testing something, typically as part of a medical assessment.
Wikidata	Lymph node	An organ of the lymphatic system and the adaptive immune system that is widely present throughout the body.
Wikidata	Laryngeal cancer	Cancer that occurs in the larynx, the voice box.
Wikidata	Medical examination	A process by which a medical professional investigates the body of a patient for signs of disease.

7. **Id:**Laterality\_of\_Lymph\_Nodes\_7

**Type:** Examination Result

**Observability:** Observed

**States:** ['present', 'absent']

**Label:** Laterality of Lymph Nodes Examination Result

**Description:** This node represents the examination result concerning the laterality (side of the body) of lymph nodes, which is crucial for understanding the spread and staging of diseases such as cancer.

**Node States:**

State Name	State Description
present	Lymph nodes are present on a specific side of the body, indicating potential involvement in disease processes such as cancer metastasis.
absent	Lymph nodes are not present on a specific side of the body, suggesting no involvement on that side in disease processes.

**Entities Information:**

Ontology Name	Label	Description
MeSH	Lymph Nodes	Small, bean-shaped organs located throughout the lymphatic system that filter lymph and store white blood cells.
SNOMED-CT	Lymph node structure	Anatomical structure that is part of the lymphatic system, involved in the filtration of lymph and immune response.
Wikidata	Lymph node	An organ of the lymphatic system and the adaptive immune system that is widely present throughout the body.

8. **Id:**MRI\_Magnetic\_Resonance\_Imaging\_8

**Type:** Examination Result

**Observability:** Observed

**States:** ['present', 'absent']

**Label:** Magnetic Resonance Imaging Examination Result

**Description:** This node represents the result of a Magnetic Resonance Imaging (MRI) examination, which is a diagnostic imaging technique used to visualize internal structures of the body in detail. The result can indicate the presence or absence of abnormalities or conditions being investigated.

**Node States:**

State Name	State Description
present	The 'present' state indicates that the MRI examination has detected the presence of the condition or abnormality being investigated.
absent	The 'absent' state indicates that the MRI examination has not detected the presence of the condition or abnormality being investigated.

**Entities Information:**

Ontology Name	Label	Description
MeSH	Magnetic Resonance Imaging	A noninvasive diagnostic technique that uses magnetic fields and radio waves to produce a detailed image of the body's soft tissue and bones.
SNOMED-CT	Magnetic Resonance Imaging	A medical imaging technique used in radiology to form pictures of the anatomy and the physiological processes of the body.
Wikidata	Magnetic Resonance Imaging	A medical imaging technique used in radiology to form pictures of the anatomy and the physiological processes of the body.

9. **Id:**CT\_Scan\_Computed\_Tomography\_9

**Type:** Examination Result

**Observability:** Observed

**States:** ['no\_lymph\_node\_involvement', 'unilateral\_lymph\_node\_involvement', 'bilateral\_lymph\_node\_involvement', 'n1\_lymph\_node\_involvement', 'n2\_lymph\_node\_involvement', 'n3\_lymph\_node\_involvement', 'present', 'absent']

**Label:** Computed Tomography Scan Examination Result

**Description:** This node represents the results of a CT scan examination, specifically assessing lymph node involvement. It is used to determine the extent of cancer spread to lymph nodes, which is critical for staging and treatment planning.

**Node States:**

State Name	State Description
no_lymph_node_involvement	The CT scan shows no evidence of cancer involvement in any lymph nodes.
unilateral_lymph_node_involvement	The CT scan indicates cancer involvement in lymph nodes on one side of the body.
bilateral_lymph_node_involvement	The CT scan indicates cancer involvement in lymph nodes on both sides of the body.
n1_lymph_node_involvement	The CT scan shows involvement of lymph nodes classified as N1, indicating a specific level of cancer spread.
n2_lymph_node_involvement	The CT scan shows involvement of lymph nodes classified as N2, indicating a more advanced level of cancer spread.
n3_lymph_node_involvement	The CT scan shows involvement of lymph nodes classified as N3, indicating extensive cancer spread.
present	The CT scan confirms the presence of lymph node involvement.
absent	The CT scan confirms the absence of lymph node involvement.

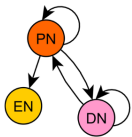
Entities Information:

Ontology Name	Label	Description
MeSH	Tomography, X-Ray Computed	A method of body imaging in which a thin X-ray beam rotates around the patient, producing signals that are processed by the machine's computer to generate cross-sectional images, or 'slices'.
MeSH	Lymph Nodes	Small, bean-shaped organs located throughout the lymphatic system that filter lymph and store white blood cells.
SNOMED-CT	Computed Tomography	A diagnostic imaging procedure that uses a combination of X-rays and computer technology to produce cross-sectional images of the body.
SNOMED-CT	Lymph node structure	Anatomical structure that is part of the lymphatic system, involved in the filtration of lymph and immune response.
Wikidata	Computed tomography	A medical imaging technique used in radiology to obtain detailed internal images of the body.
Wikidata	Lymph node	An organ of the lymphatic system and the adaptive immune system that is widely present throughout the body.

Invalid Edges:

Invalid Edges based on Edge Dependencies schema

1. N\_Stage\_1 [Decision Node (DN)] ----> Lymph\_Node\_Involvement\_2 [Examination Result (EN)]



Node Types:

☒ Check Node Types

Select Node Type:

☒ Patient Situation

☐ Examination Result

☐ Decision Node

☐ Unknown

▼

[

0 : "Number\_of\_Positive\_Lymph\_Nodes\_3"

1 : "Size\_of\_Positive\_Lymph\_Nodes\_4"

2 : "Location\_of\_Positive\_Lymph\_Nodes\_5"

]

☐ Check Isolated Nodes

☒ Check Node Types

Select Node Type:

☐ Patient Situation

☒ Examination Result

☐ Decision Node

☐ Unknown

▼

[

0 : "Lymph\_Node\_Involvement\_2"

1 : "Laterality\_of\_Lymph\_Nodes\_7"

2 : "Number\_of\_Positive\_Lymph\_Nodes\_6"

3 : "MRI\_Magnetic\_Resonance\_Imaging\_8"

4 : "CT\_Scan\_Computed\_Tomography\_9"

]

☒ Check Node Types

Select Node Type:

☐ Patient Situation

☐ Examination Result

☒ Decision Node

☐ Unknown

▼

[

0 : "N\_Stage\_1"

]

☐ Check Isolated Nodes

Multiple Paths:

Multiple Paths

No Multiple Paths detected.