Sinus Infection

Case Study:

A patient presents symptoms of a headache, fever, and yellow discharge from the nose. The patient mentions that these symptoms have been on and off for the last two weeks. Over the counter drugs have been taken and have shown no alleviation of symptoms.

Background Information:

* Sinuses: air-filled cavities that connect with nasal passages.
  + Can be affected by any upper respiratory tract infection, allergy, or bacterial infection.
* Can be caused by the following:
  + Cold
  + Allergy attack
  + Swimming
  + Dental extraction
  + Deviated Septum
* Symptoms:
  + Tenderness/swelling around cheekbones or eyes.
  + Headache (usually worse during the day, eye movement also can increase the pain)
  + Thick yellowish discharge from the nose.
  + Sore throat, fever, or cough.
* Treatment
  + Drainage of secretions. This can be done through a decongestant.
    - OTC decongestant: Afrin, Allerest, Benzedrex.
  + Application of warm heat. Reduced the pain and helps infection heal.
  + Antibiotics. Decreases spread of infection.
    - Pharmacy prescription: amoxicillin, ampicillin, erythromycin.
  + Nasal aspirator. Remove mucus from the nose of patients.

NARSESE Translation

<(\*, [sinus-infection], [sinus]) --> infection>.

<(\*, [sinuses], [nasal-passage]) --> cavity>.

<[sinus-infection] --> [swelling-of-cheekbones]>.

<[sinus-infection] --> [headache]>.

<[sinus-infection] --> [yellow-discharge]>.

<[sinus-infection] --> [sore-throat]>.

<[sinus-infection] --> [fever]>.

<[sinus-infection] --> [cough]>.

<#x --> [sinus-infection]> ==> <#x --> [common-cold]>.

<#x --> [sinus-infection]> ==> <#x --> [allergy-attack]>.

<#x --> [sinus-infection]> ==> <#x --> [dental-extraction]>.

<#x --> [sinus-infection]> ==> <#x --> [deviated-septum]>.

< [OTC] <-> [over-the-counter]>.

<<#x --> [sinus-infection]> ==> <(\*, decongestant, {#x}) --> OTC-treatment>>.

<<#x --> [sinus-infection]> ==> <(\*, warm-heat, {#x}) --> OTC-treatment>>.

<<#x --> [sinus-infection]> ==> <(\*, antibiotic, {#x}) --> OTC-treatment>>.

<<#x --> [sinus-infection]> ==> <(\*, nasal-respirator, {#x}) --> OTC-treatment>>.

Step-By-Step Translation:

INPUT:

<{John-Doe} --> [headache]>.

<{John-Doe} --> [fever]>.

<{John-Doe} --> [yellow-discharge]>.

<[headache] --> [sinus-infection]>.

<[yellow-discharge] --> [sinus-infection]>.

<[fever] --> [sinus-infection]>.

<(\*, [sinus-infection], [sinus]) --> infection>.

<#x --> [sinus-infection]> ==> <#x --> [common-cold]>.

<<{John-Doe} --> [sinus-infection]> ==> <(\*, decongestant, {John-Doe}) --> OTC-treatment>>.

<<{John-Doe} --> [sinus-infection]> ==> <(\*, warm-heat, {John-Doe}) --> OTC-treatment>>.

<<{John-Doe} --> [sinus-infection]> ==> <(\*, antibiotic, {John-Doe}) --> OTC-treatment>>.

<<{John-Doe} --> [sinus-infection]> ==> <(\*, nasal-respirator, {John-Doe}) --> OTC-treatment>>.

OUTPUT:

<<(\*,decongestant,{John-Doe}) --> OTC- treatment> ==> (&&,<(\*,warm-heat,{John-Doe}) --> OTC-treatment>,<(\*,antibiotic,{John-Doe}) --> OTC-treatment>,<(\*,nasal-respirator,{John-Doe}) --> OTC-treatment>)>. %1.00;0.40%

(1)

IN: <{John-Doe} --> [headache]>.

IN: <{John-Doe} --> [yellow-discharge]>.

OUT: <<{John-Doe} --> [headache]> <=> <{John-Doe} --> [yellow-discharge]>>. %1.00;0.45%

(2)

IN: <<{John-Doe} --> [headache]> <=> <{John-Doe} --> [yellow-discharge]>>. %1.00;0.45%

IN: <[headache] --> [sinus-infection]>.

IN: <[yellow-discharge] --> [sinus-infection]>.

OUT: <[sinus-infection] --> {John-Doe}>. %1.00;0.27%

(3)

IN: <{John-Doe} --> [fever]>.

IN: <[fever] --> [sinus-infection]>.

IN: <[sinus-infection] --> {John-Doe}>. %1.00;0.27%

OUT: <{John-Doe} --> [sinus-infection]>. %1.00;0.81%

(4)

IN: John-Doe} --> [sinus-infection]>. %1.00;0.81%

IN: <<{John-Doe} --> [sinus-infection]> ==> <(\*, decongestant, {John-Doe}) --> OTC-treatment>>.

IN: <<{John-Doe} --> [sinus-infection]> ==> <(\*, warm-heat, {John-Doe}) --> OTC-treatment>>.

IN: <<{John-Doe} --> [sinus-infection]> ==> <(\*, antibiotic, {John-Doe}) --> OTC-treatment>>.

IN: <<{John-Doe} --> [sinus-infection]> ==> <(\*, nasal-respirator, {John-Doe}) --> OTC-treatment>>.

OUT: <<(\*,decongestant,{John-Doe}) --> OTC- treatment> ==> (&&,<(\*,warm-heat,{John-Doe}) --> OTC-treatment>,<(\*,antibiotic,{John-Doe}) --> OTC-treatment>,<(\*,nasal-respirator,{John-Doe}) --> OTC-treatment>)>. %1.00;0.40%