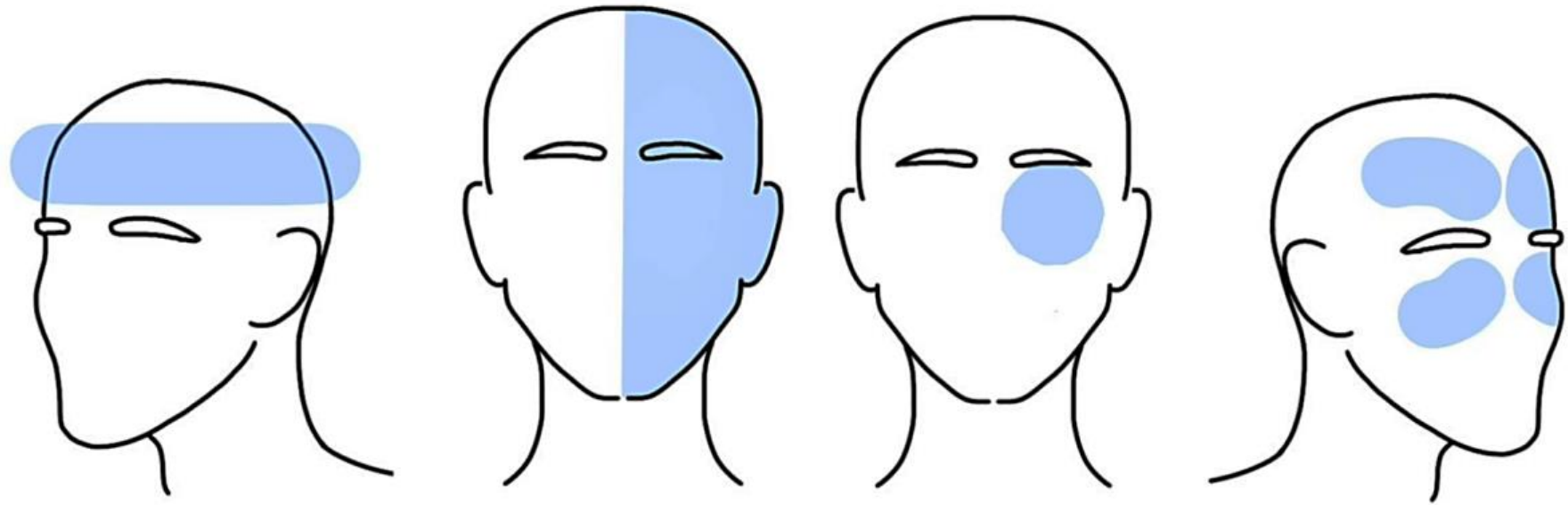# Headache Types Expert System

- About

The system contains 54 rules. The Symptoms are described in Table 1. Headache types and their symptoms Table 2, as well as from which a potential headache type categorization may be derived. Additionally, self-care guidelines were provided for every type listed in Table 3. Table 4 lists each medication along with the types of headaches it treats. Finally, Table 5 provides a general description that the system can't classify.

ID	Symptoms
1	Dull
2	Aching pain that feels like a tight band around the head
3	Tenderness in the scalp, neck, or shoulder muscles
4	Sensitivity to light or noise.
5	Sensitivity to sound
6	Nausea or Vomiting
7	Visual disturbances (such as seeing flashing lights or zigzag lines)
8	Excruciating pain on one side of the head
9	Tearing, redness or swelling of the eye, drooping eyelid (ptosis).
10	Nasal congestion, runny nose
11	Restlessness
12	Aura
13	Pressure, Facial Tenderness and swelling in the areas around the nose, eyes, and cheeks
14	Fever
15	Fatigue
16	Reduce sense of smell
17	Thick nasal discharge, which may be yellow or green
18	Difficulty concentrating, confusion, and mood changes
19	Olfactory Sensitivity (sensitive to smells)
20	Stiffness or tightness in the neck and shoulders

Table 1

Headache type	symptoms
Tension headaches	1, 2, 3, 4
Sinus headaches	10, 11, 13, 14, 15, 16, 17
Cluster headaches	4, 5, 8, 9, 10, 11, 13
Migraine headaches	6, 7, 8, 11, 12, 18, 19, 20

Table 2

ID	Treatment	Medicine ID	Headache type
ST1	Self-treatment for tension headaches can include: 1. Applying a warm or cold compress to the affected area. 2. Practicing relaxation techniques such as deep breathing or meditation, getting regular exercise. 3. Maintaining good posture, and managing stress levels through techniques like regular sleep, staying hydrated. 4. Taking breaks from activities that may trigger headaches.	**M1**	Tension
ST2	Self-treatment for sinus headaches can include 1. Using a humidifier or taking a hot shower to help relieve congestion. 2. Applying warm compresses to the face. 3. Practicing nasal irrigation with a saline solution. 4. Staying hydrated and getting plenty of rest.	**M2**	Sinus
ST3	Some strategies for cluster headaches that may help include: 1. Avoiding triggers like alcohol or strong smells. 2. Practicing relaxation techniques such as deep breathing or meditation. 3. Applying cold or hot packs to the affected area. 4. Maintaining a regular sleep schedule. 5. Avoid smoking.	**M3**	Cluster
ST4	Self-treatment measures that may help with migraine headaches include: 1. Identifying and avoiding triggers. 2. Finding a quiet, dark environment to rest in during an attack. 3. Practicing stress management techniques such as relaxation exercises or yoga. 4. Maintaining a regular sleep schedule, staying hydrated. 5. Applying a cold or warm compress to the head or neck.	**M4**	Migraine

Table 3

ID	Medicine	Headache type
M1	There are several medications For Tension headaches include, 1. Over-the-counter pain relievers like acetaminophen (Tylenol), ibuprofen (Advil). 2. Aspirin can be effective.	Tension
M2	There are several medications For sinus headaches include, 1. Nasal decongestants or saline nasal sprays may also provide relief by reducing congestion. 2. Over-the-counter pain relievers like acetaminophen or ibuprofen can help alleviate the pain.	Sinus
M3	Best documented drugs for preventive treatment of cluster headache are 1. Verapamil and lithium. 2. Possibly effective drugs are gabapentin, topiramate, divalproex sodium, and melatonin.	Cluster
M4	There are several medications that can be used to treat migraine headaches. These include 1. Over-the-counter pain relievers like ibuprofen or acetaminophen, triptans, anti-nausea medications. 2. Preventive medications like beta-blockers or antidepressants.	Migraine

Table 4

ID	Description
OS	You might do not have any problem or the disease you have is out of our scope.
OS1	You might have some symptoms that could mean a certain disease that is out of our scope. Over-the-counter pain relievers like acetaminophen or ibuprofen can help alleviate the pain.

Table 5

Flow Diagram