WELCOME!

Today's seminar for June 20, 2016

Using EMERSE to search the 100+ million documents in the medical record at Michigan

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CME Faculty Disclosures: Drs. Ayanian, Hanauer, Pynnonen and Richardson have disclosed no relevant financial relationship. The intent of this disclosure is that any potential conflict should be identified openly so that the listeners may form their own judgments about the presentation with the full disclosure of the facts. It remains for the audience to determine whether the speaker's outside interest may reflect a possible bias in either the exposition or the conclusions presented.

Using EMERSE to find hidden treasure in the health care record

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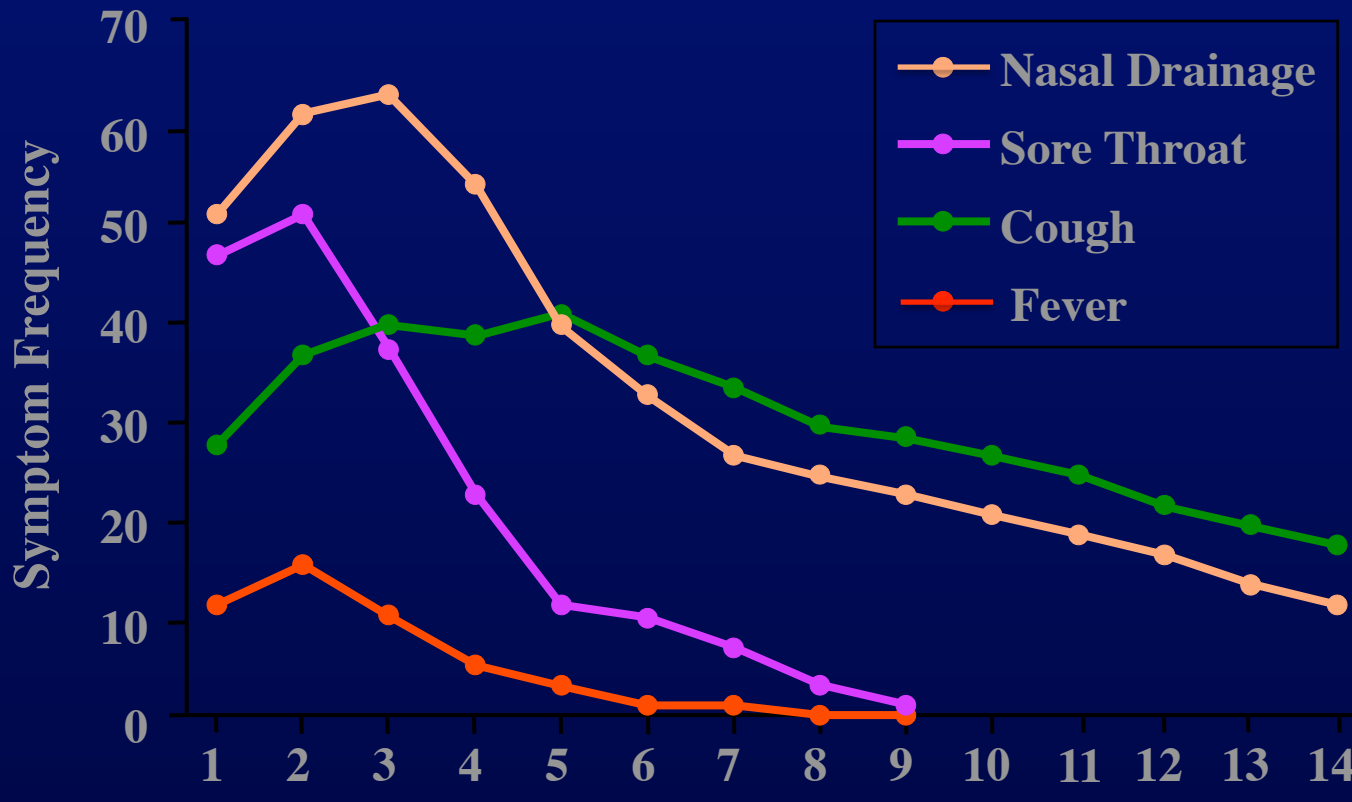
Institute of Healthcare Policy & Innovation
June 20, 2016

Otolaryngology - Head & Neck Surgery
UNIVERSITY OF MICHIGAN HEALTH SYSTEM

Common cold duration > 2 weeks



Adapted from Gwaltney, JAMA , 1967

Otolaryngology–Head and Neck Surgery (2007) 137, S1-S31

GUIDELINES

Clinical practice guideline: Adult sinusitis

Richard M. Rosenfeld, MD, MPH, David Andes, MD, Neil Bhattacharyya, MD, Dickson Cheung, MD, MBA, MPH-C, Steven Eisenberg, MD, Theodore G. Ganiats, MD, Andrea Gelzer, MD, MS, Daniel Hamilos, MD, Richard C. Haydon III, MD, Patricia A. Hudgins, MD, Stacie Jones, MPH, Helene J. Krouse, PhD, Lawrence H. Lee, MD, Martin C. Mahoney, MD, PhD, Bradley F. Marple, MD, Col. John P. Mitchell, MC, MD, Robert Nathan, MD, Richard N. Shiffman, MD, MCIS, Timothy L. Smith, MD, MPH, and **David L. Witsell, MD, MHS,** Brooklyn, NY; Madison, WI; Boston, MA; Baltimore, MD; Edina, MN; San Diego, CA; Hartford, CT; Lexington, KY; Atlanta, GA; Alexandria, VA; Detroit, MI; Buffalo, NY; Dallas, TX; Wright-Patterson AFB, OH; Denver, CO; New Haven, CT; Portland, OR; and Durham, NC

Statement 1a. Diagnosis of Acute Rhinosinusitis

Clinicians should distinguish presumed acute bacterial rhinosinusitis (ABRS) from acute rhinosinusitis caused by viral upper respiratory infections and noninfectious conditions. A clinician should diagnose ABRS when (a) symptoms or signs of acute rhinosinusitis are present 10 days or more beyond the onset of upper respiratory symptoms, or (b) symptoms or signs of acute rhinosinusitis worsen within 10 days after an initial improvement (double worsening). *Strong recommendation based*

Statement 4. Watchful Waiting for Acute Bacterial Rhinosinusitis (ABRS)

Observation without use of antibiotics is an option for selected adults with uncomplicated ABRS who have mild illness (mild pain and temperature <38.3°C or 101°F) and assurance of follow-up. *Option based on double-blind randomized controlled trials with heterogeneity in diagnostic criteria and illness severity, and a relative balance of benefit and risk.*

Otolaryngology - Head & Neck Surgery

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Data extraction limited to HPI, PE, AP

27 yo man sick for several days with stuffy nose and clear nasal discharge (HPI)

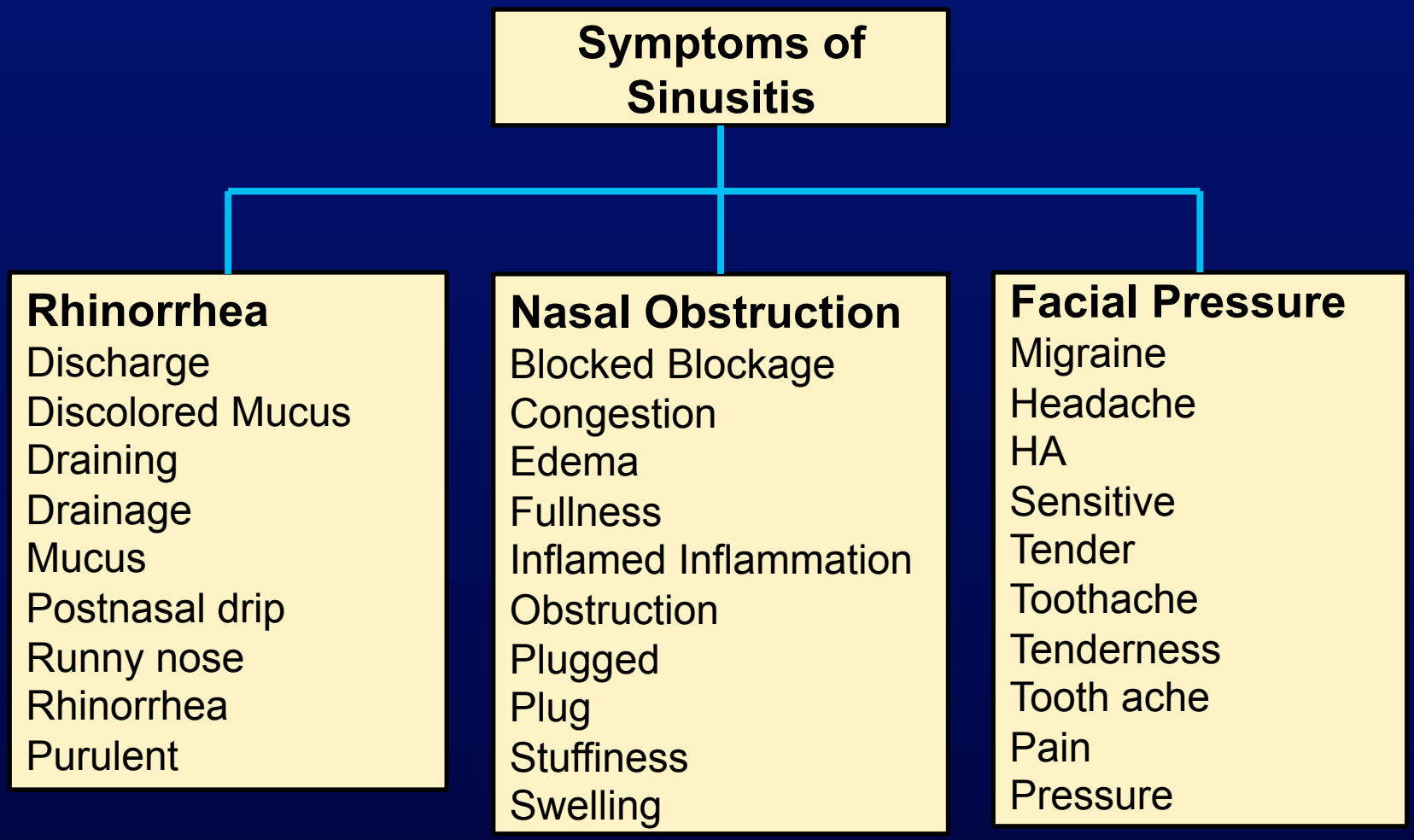
His review of systems is notable for nosebleeds, snoring, somnolence, headache and fatigue. It is otherwise negative in 10 of 14 systems per review of patient questionnaire (ROS)

HEENT: No sinus tenderness, nasal polyps, nasal discharge, or epistaxis (PE)

Sinusitis. Amoxicillin, Tylenol, hydration (AP)

Symptoms of sinusitis

- Obstruction
  - 0 absent (“sounds congested”)
  - 1 present
- Rhinorrhea
  - 0 absent
  - 1 present (regardless of color, clear, cloudy, discolored)
- Facial Pressure
  - 0 absent
  - 1 present


Symptoms of Sinusitis
Rhinorrhea
Discharge
Discolored Mucus
Draining
Drainage
Mucus
Postnasal drip
Runny nose
Rhinorrhea
Purulent
Nasal Obstruction
Blocked Blockage
Congestion
Edema
Fullness
Inflamed Inflammation
Obstruction
Plugged
Plug
Stuffiness
Swelling
Facial Pressure
Migraine
Headache
HA
Sensitive
Tender
Toothache
Tenderness
Tooth ache
Pain
Pressure

Symptom Duration

If multiple durations select the longer duration e.g. obstruction 3 months, drainage 7 days

- Few days= 3
- Several days= 7
- Week and a half= 10
- Many days = 11
- Couple weeks= 14
- Few weeks= 21
- Several weeks= 28
- Last Month = 30
- Couple Months = 60
- Several Months = 90
- Missing = 999

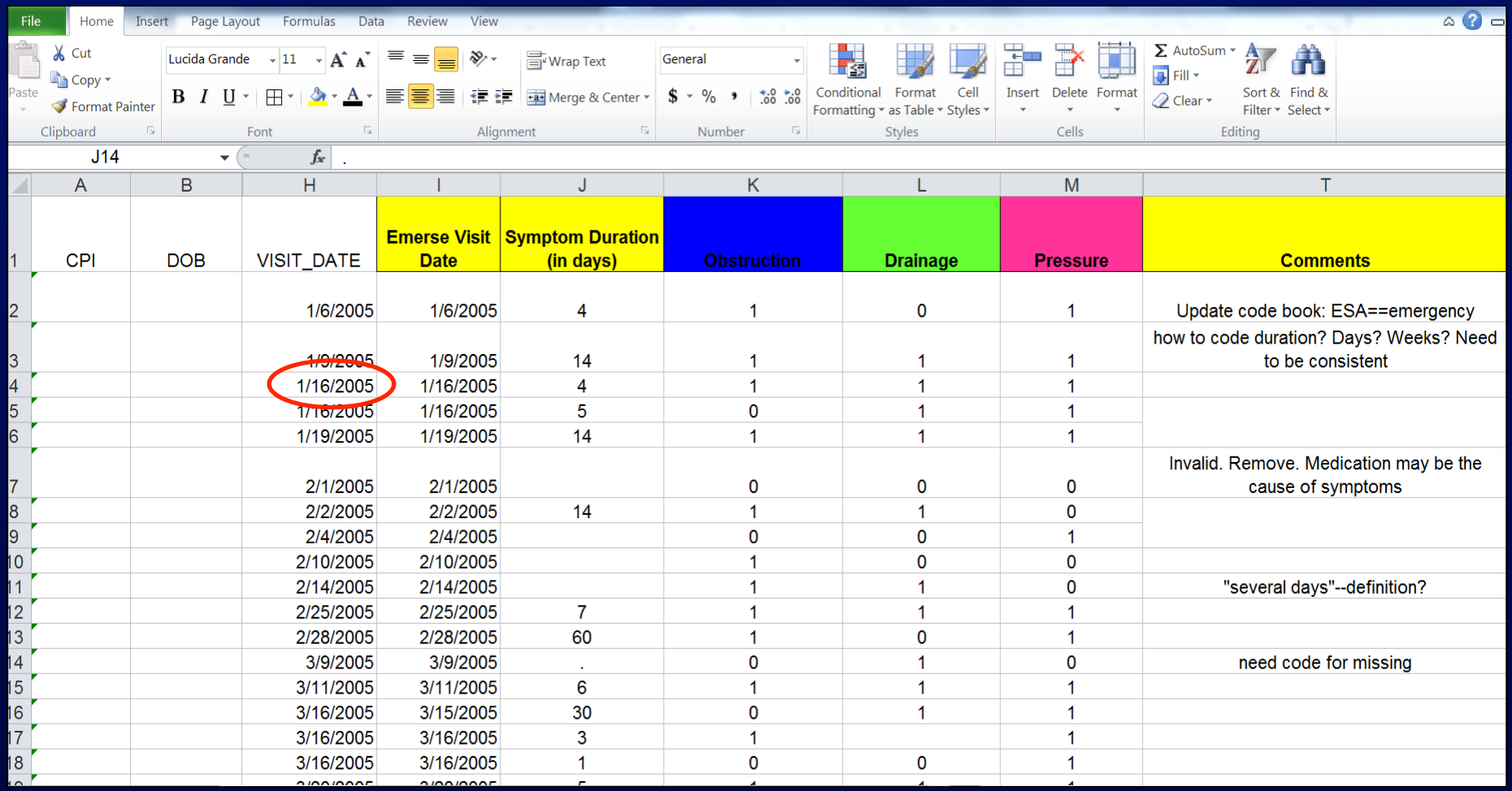
Antibiotics

0 = no antibiotic

1 = yes - new antibiotic

2 = yes - prior antibiotic

Excel for EMERSE data collection



File Home Insert Page Layout Formulas Data Review View

Cut Copy Format Painter Paste — Clipboard

Lucida Grande 11 — Font

Wrap Text Merge & Center — Alignment

General — Number

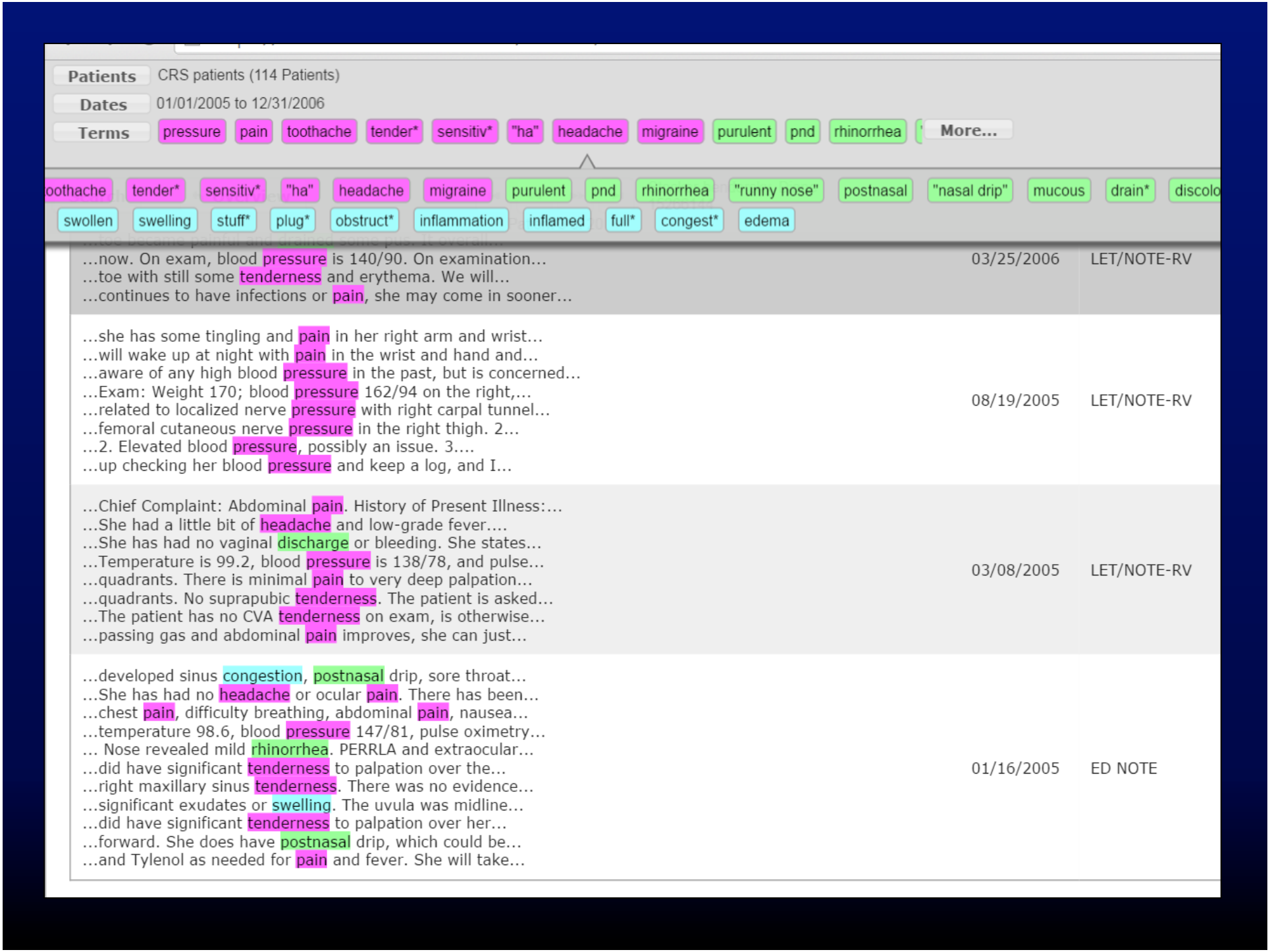
Conditional Formatting Format as Table Cell Styles — Styles

Insert Delete Format — Cells

AutoSum Fill Clear Sort & Filter Find & Select — Editing

J14

	A	B	H	I	J	K	L	M	T
1	CPI	DOB	VISIT_DATE	Emerse Visit Date	Symptom Duration (in days)	Obstruction	Drainage	Pressure	Comments
2			1/6/2005	1/6/2005	4	1	0	1	Update code book: ESA==emergency
3			1/9/2005	1/9/2005	14	1	1	1	how to code duration? Days? Weeks? Need to be consistent
4			1/16/2005	1/16/2005	4	1	1	1	
5			1/16/2005	1/16/2005	5	0	1	1	
6			1/19/2005	1/19/2005	14	1	1	1	
7			2/1/2005	2/1/2005		0	0	0	Invalid. Remove. Medication may be the cause of symptoms
8			2/2/2005	2/2/2005	14	1	1	0	
9			2/4/2005	2/4/2005		0	0	1	
10			2/10/2005	2/10/2005		1	0	0	
11			2/14/2005	2/14/2005		1	1	0	"several days"--definition?
12			2/25/2005	2/25/2005	7	1	1	1	
13			2/28/2005	2/28/2005	60	1	0	1	
14			3/9/2005	3/9/2005	.	0	1	0	need code for missing
15			3/11/2005	3/11/2005	6	1	1	1	
16			3/16/2005	3/15/2005	30	0	1	1	
17			3/16/2005	3/16/2005	3	1		1	
18			3/16/2005	3/16/2005	1	0	0	1	


Patients
CRS patients (114 Patients)
Dates
01/01/2005 to 12/31/2006
Terms
pressure
pain
toothache
tender*
sensitiv*
"ha"
headache
migraine
purulent
pnd
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More...
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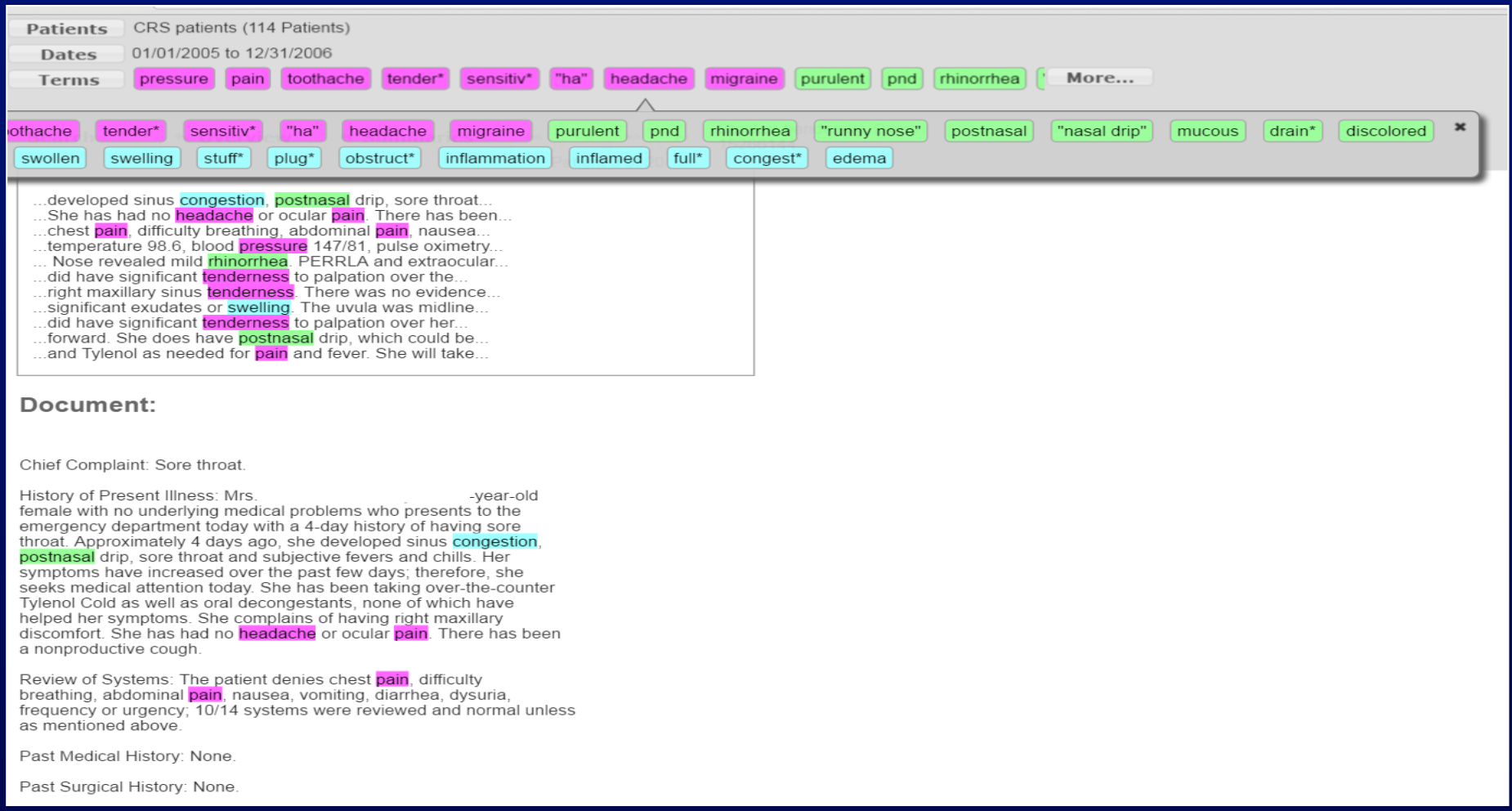
mucous
drain*
discolo
swollen
swelling
stuff*
plug*
obstruct*
inflammation
inflamed
full*
congest*
edema
...now. On exam, blood pressure is 140/90. On examination...
...toe with still some tenderness and erythema. We will...
...continues to have infections or pain, she may come in sooner...
03/25/2006
LET/NOTE-RV
...she has some tingling and pain in her right arm and wrist...
...will wake up at night with pain in the wrist and hand and...
...aware of any high blood pressure in the past, but is concerned...
...Exam: Weight 170; blood pressure 162/94 on the right,...
...related to localized nerve pressure with right carpal tunnel...
...femoral cutaneous nerve pressure in the right thigh. 2...
...2. Elevated blood pressure, possibly an issue. 3....
...up checking her blood pressure and keep a log, and I...
08/19/2005
LET/NOTE-RV
...Chief Complaint: Abdominal pain. History of Present Illness:...
...She had a little bit of headache and low-grade fever....
...She has had no vaginal discharge or bleeding. She states...
...Temperature is 99.2, blood pressure is 138/78, and pulse...
...quadrants. There is minimal pain to very deep palpation...
...quadrants. No suprapubic tenderness. The patient is asked...
...The patient has no CVA tenderness on exam, is otherwise...
...passing gas and abdominal pain improves, she can just...
03/08/2005
LET/NOTE-RV
...developed sinus congestion, postnasal drip, sore throat...
...She has had no headache or ocular pain. There has been...
...chest pain, difficulty breathing, abdominal pain, nausea...
...temperature 98.6, blood pressure 147/81, pulse oximetry...
... Nose revealed mild rhinorrhea. PERRLA and extraocular...
...did have significant tenderness to palpation over the...
...right maxillary sinus tenderness. There was no evidence...
...significant exudates or swelling. The uvula was midline...
...did have significant tenderness to palpation over her...
...forward. She does have postnasal drip, which could be...
...and Tylenol as needed for pain and fever. She will take...
01/16/2005
ED NOTE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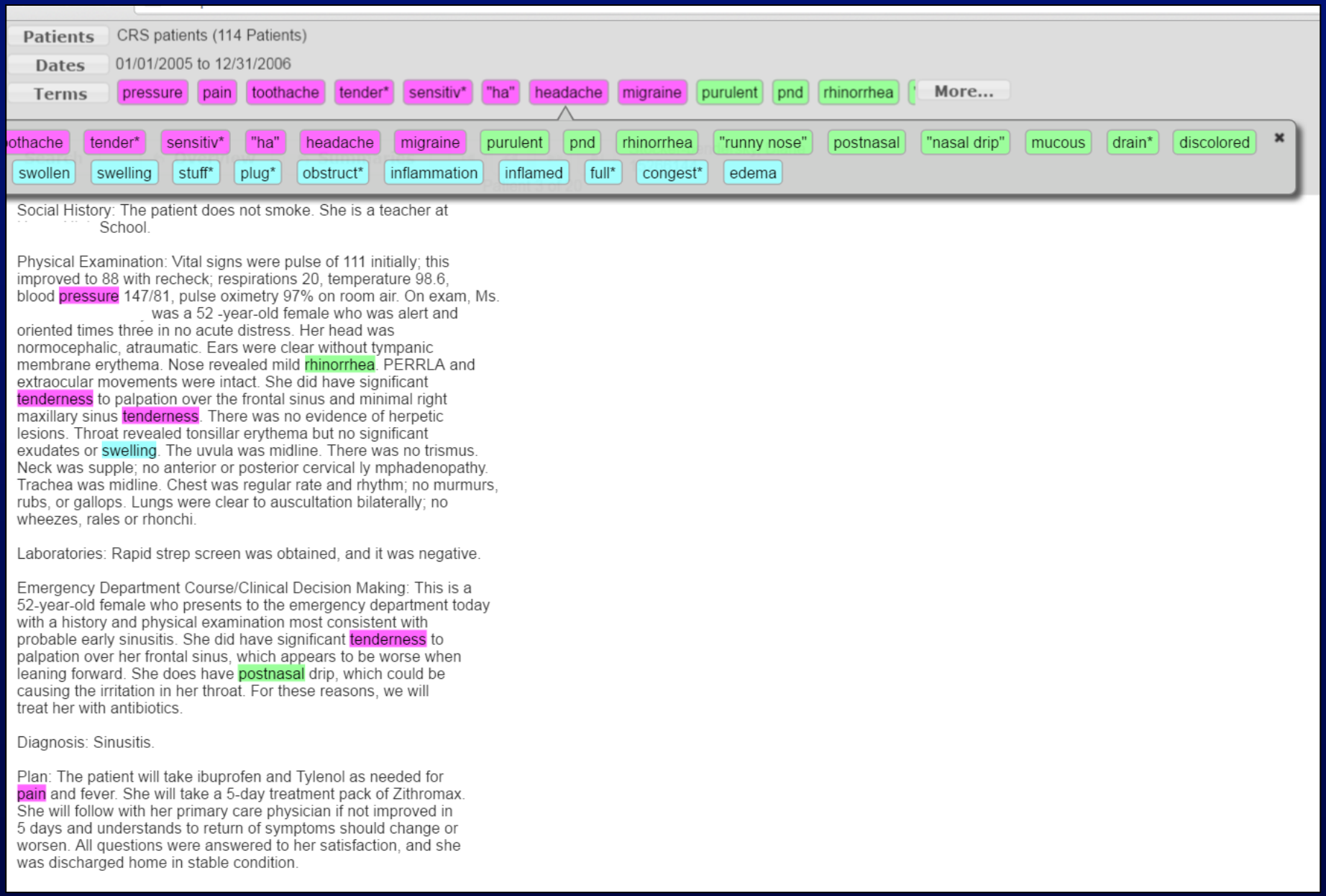
...and Tylenol as needed for pain and fever. She will take...
Document:
Chief Complaint: Sore throat.
History of Present Illness: Mrs. -year-old female with no underlying medical problems who presents to the emergency department today with a 4-day history of having sore throat. Approximately 4 days ago, she developed sinus congestion, postnasal drip, sore throat and subjective fevers and chills. Her symptoms have increased over the past few days; therefore, she seeks medical attention today. She has been taking over-the-counter Tylenol Cold as well as oral decongestants, none of which have helped her symptoms. She complains of having right maxillary discomfort. She has had no headache or ocular pain. There has been a nonproductive cough.
Review of Systems: The patient denies chest pain, difficulty breathing, abdominal pain, nausea, vomiting, diarrhea, dysuria, frequency or urgency; 10/14 systems were reviewed and normal unless as mentioned above.
Past Medical History: None.
Past Surgical History: None.



Social History: The patient does not smoke. She is a teacher at School.

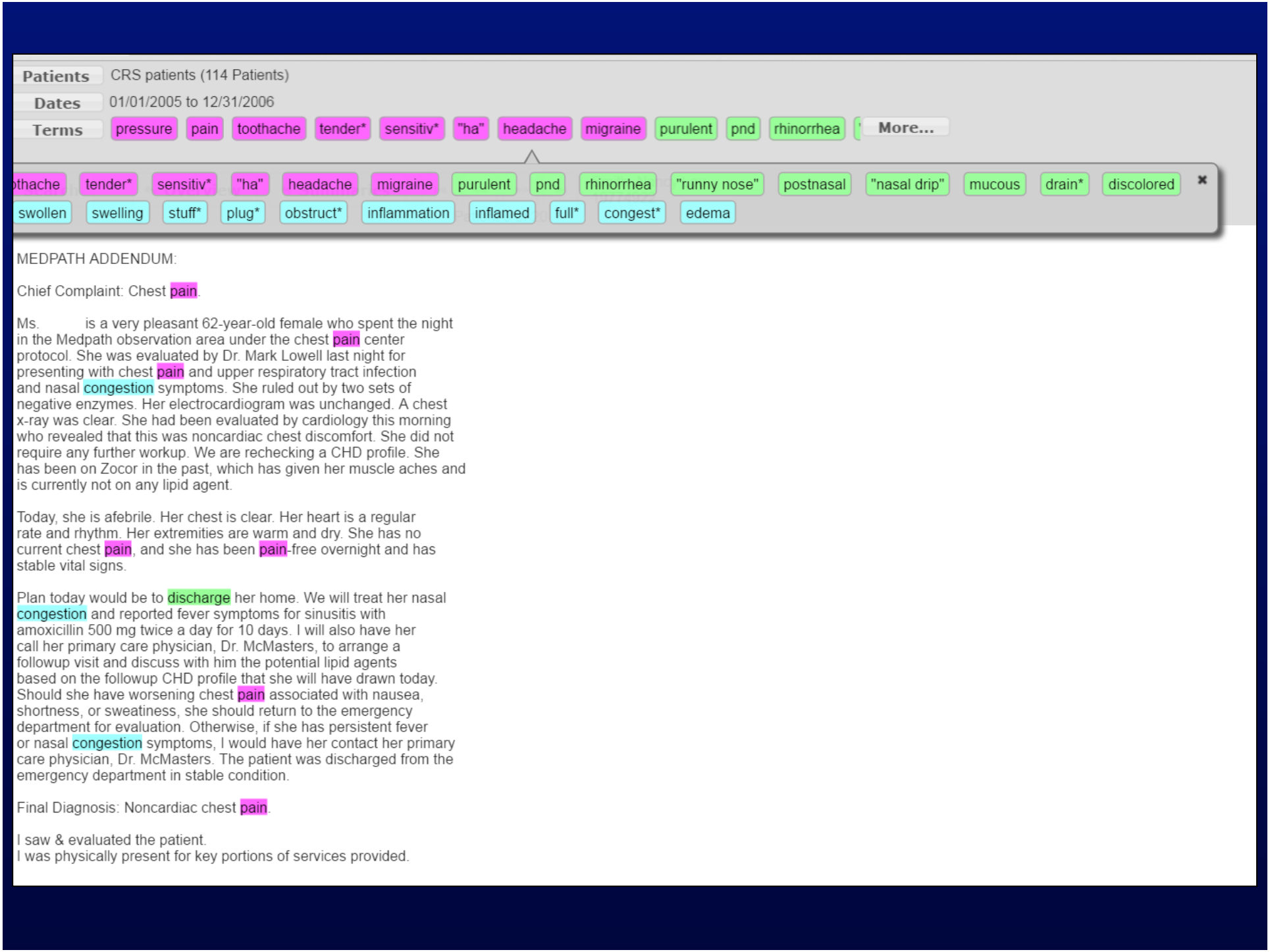
Physical Examination: Vital signs were pulse of 111 initially; this improved to 88 with recheck; respirations 20, temperature 98.6, blood pressure 147/81, pulse oximetry 97% on room air. On exam, Ms. was a 52 -year-old female who was alert and oriented times three in no acute distress. Her head was normocephalic, atraumatic. Ears were clear without tympanic membrane erythema. Nose revealed mild rhinorrhea. PERRLA and extraocular movements were intact. She did have significant tenderness to palpation over the frontal sinus and minimal right maxillary sinus tenderness. There was no evidence of herpetic lesions. Throat revealed tonsillar erythema but no significant exudates or swelling. The uvula was midline. There was no trismus. Neck was supple; no anterior or posterior cervical ly mphadenopathy. Trachea was midline. Chest was regular rate and rhythm; no murmurs, rubs, or gallops. Lungs were clear to auscultation bilaterally; no wheezes, rales or rhonchi.

Laboratories: Rapid strep screen was obtained, and it was negative.

Emergency Department Course/Clinical Decision Making: This is a 52-year-old female who presents to the emergency department today with a history and physical examination most consistent with probable early sinusitis. She did have significant tenderness to palpation over her frontal sinus, which appears to be worse when leaning forward. She does have postnasal drip, which could be causing the irritation in her throat. For these reasons, we will treat her with antibiotics.

Diagnosis: Sinusitis.

Plan: The patient will take ibuprofen and Tylenol as needed for pain and fever. She will take a 5-day treatment pack of Zithromax. She will follow with her primary care physician if not improved in 5 days and understands to return of symptoms should change or worsen. All questions were answered to her satisfaction, and she was discharged home in stable condition.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swollen
swelling
stuff*
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edema
MEDPATH ADDENDUM:
Chief Complaint: Chest pain.
Ms. is a very pleasant 62-year-old female who spent the night in the Medpath observation area under the chest pain center protocol. She was evaluated by Dr. Mark Lowell last night for presenting with chest pain and upper respiratory tract infection and nasal congestion symptoms. She ruled out by two sets of negative enzymes. Her electrocardiogram was unchanged. A chest x-ray was clear. She had been evaluated by cardiology this morning who revealed that this was noncardiac chest discomfort. She did not require any further workup. We are rechecking a CHD profile. She has been on Zocor in the past, which has given her muscle aches and is currently not on any lipid agent.
Today, she is afebrile. Her chest is clear. Her heart is a regular rate and rhythm. Her extremities are warm and dry. She has no current chest pain, and she has been pain-free overnight and has stable vital signs.
Plan today would be to discharge her home. We will treat her nasal congestion and reported fever symptoms for sinusitis with amoxicillin 500 mg twice a day for 10 days. I will also have her call her primary care physician, Dr. McMasters, to arrange a followup visit and discuss with him the potential lipid agents based on the followup CHD profile that she will have drawn today. Should she have worsening chest pain associated with nausea, shortness, or sweatiness, she should return to the emergency department for evaluation. Otherwise, if she has persistent fever or nasal congestion symptoms, I would have her contact her primary care physician, Dr. McMasters. The patient was discharged from the emergency department in stable condition.
Final Diagnosis: Noncardiac chest pain.
I saw & evaluated the patient.
I was physically present for key portions of services provided.

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