Management of Sinusitis

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Disclosures

1. I have no relevant financial relationships with the manufacturers of any commercial products or provider of commercial services discussed in this CME activity.

2. I do intend to discuss an unapproved use of a commercial product in my presentation.


Step
1
Tag
your
bag

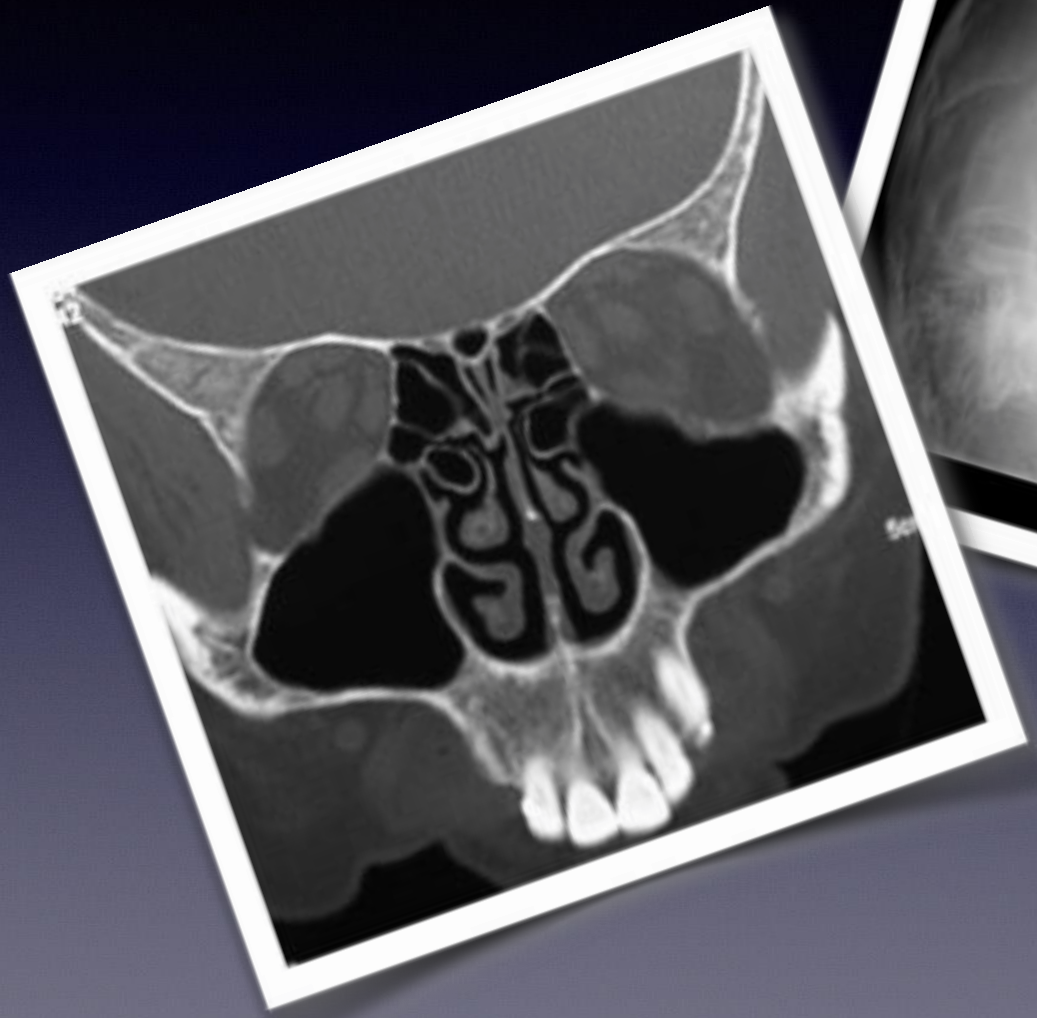
My 8-month old has terrible allergies!

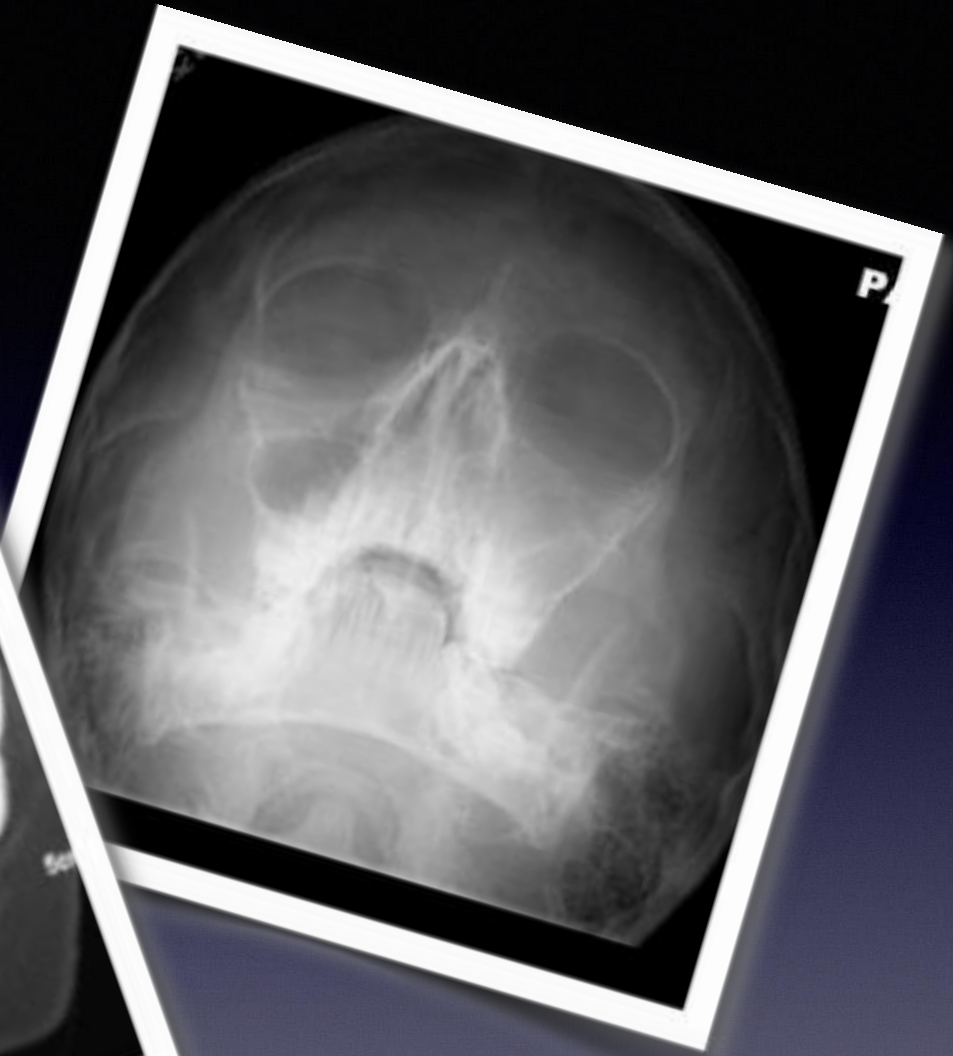
My daughter has sinusitis 9 times a week…on average.

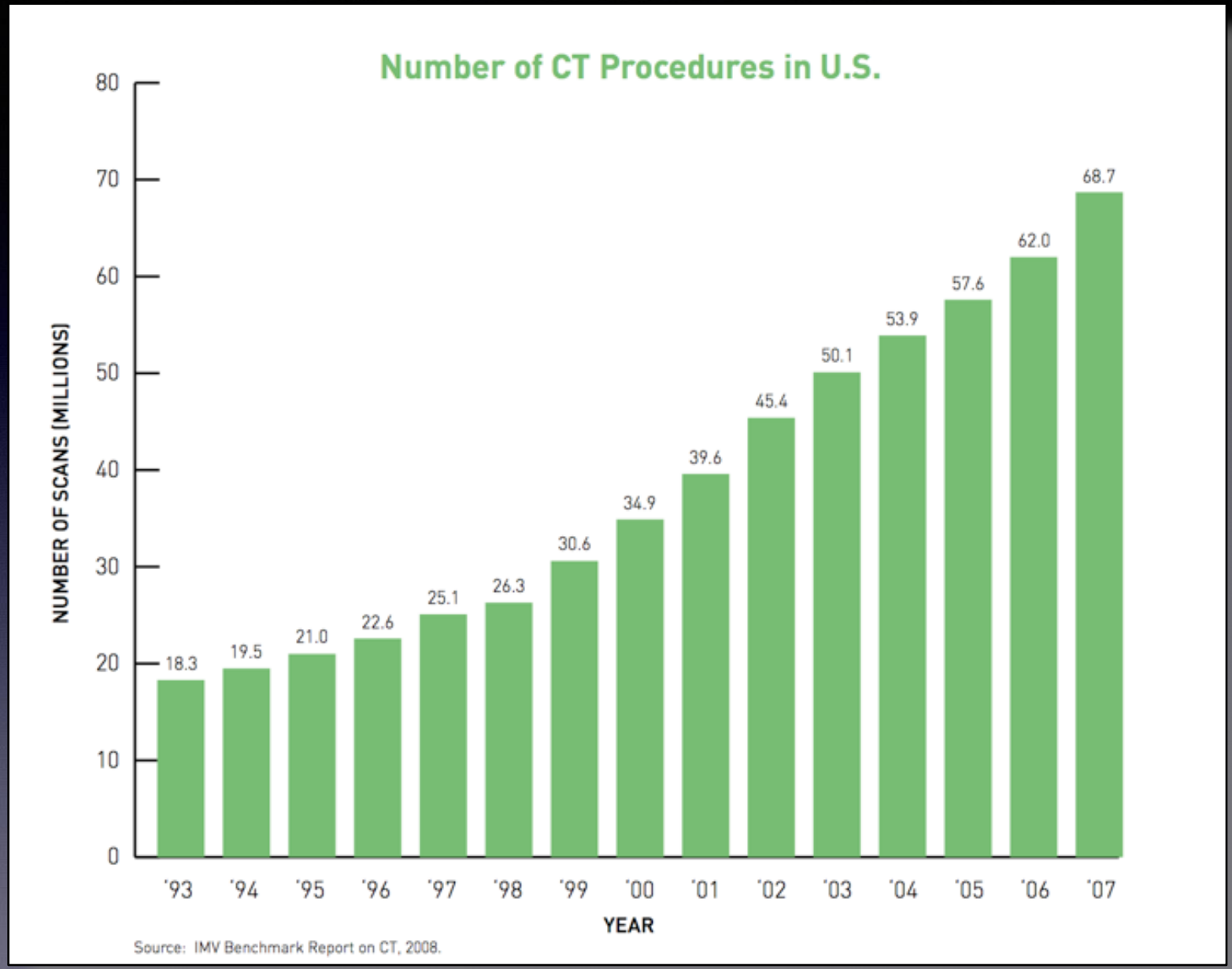
He was sent home because the teacher said it became contagious when it turned green.

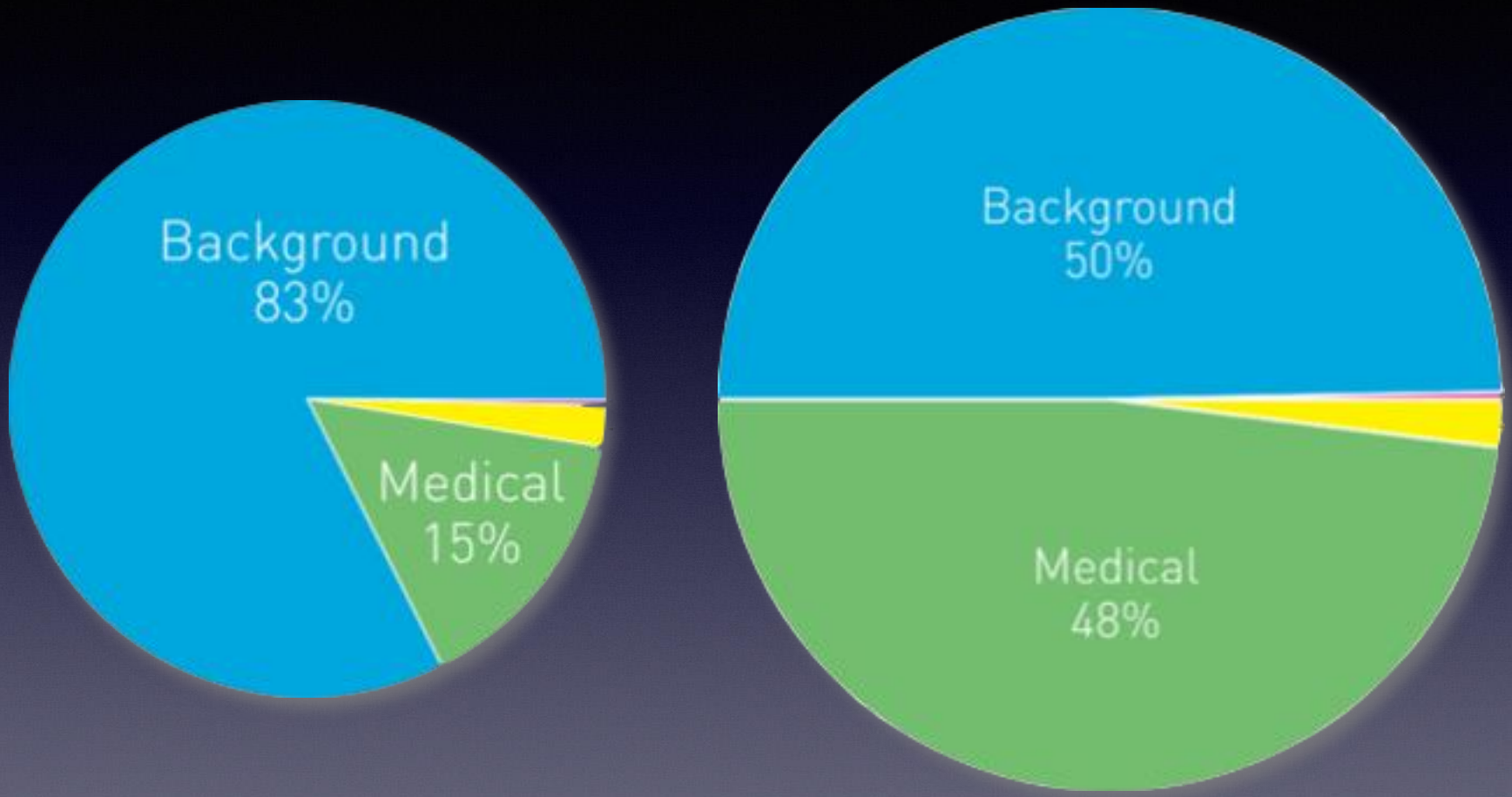
4-year-old child presents to your clinic with a history of copious nasal discharge for the previous 5 days. Initially clear, the mucous has become thick and green in the last 48 hours. His father reports noting intermittent fevers during the first 3 days (none measured) but has noted none in the last 48 hours. The father also reports a productive cough with nighttime waking for same. The child has complained a number of times about a sore throat. He has been treated for similar symptoms twice in the past 3 months with courses of amoxicillin. Rapid resolution of symptoms was noted on both occasions. The child has no significant medical history. On exam, you note thick nasal discharge from both nares as described, a unilateral serous effusion in the left ear, and halitosis. The remainder of your exam is WNL. Vital signs are WNL.

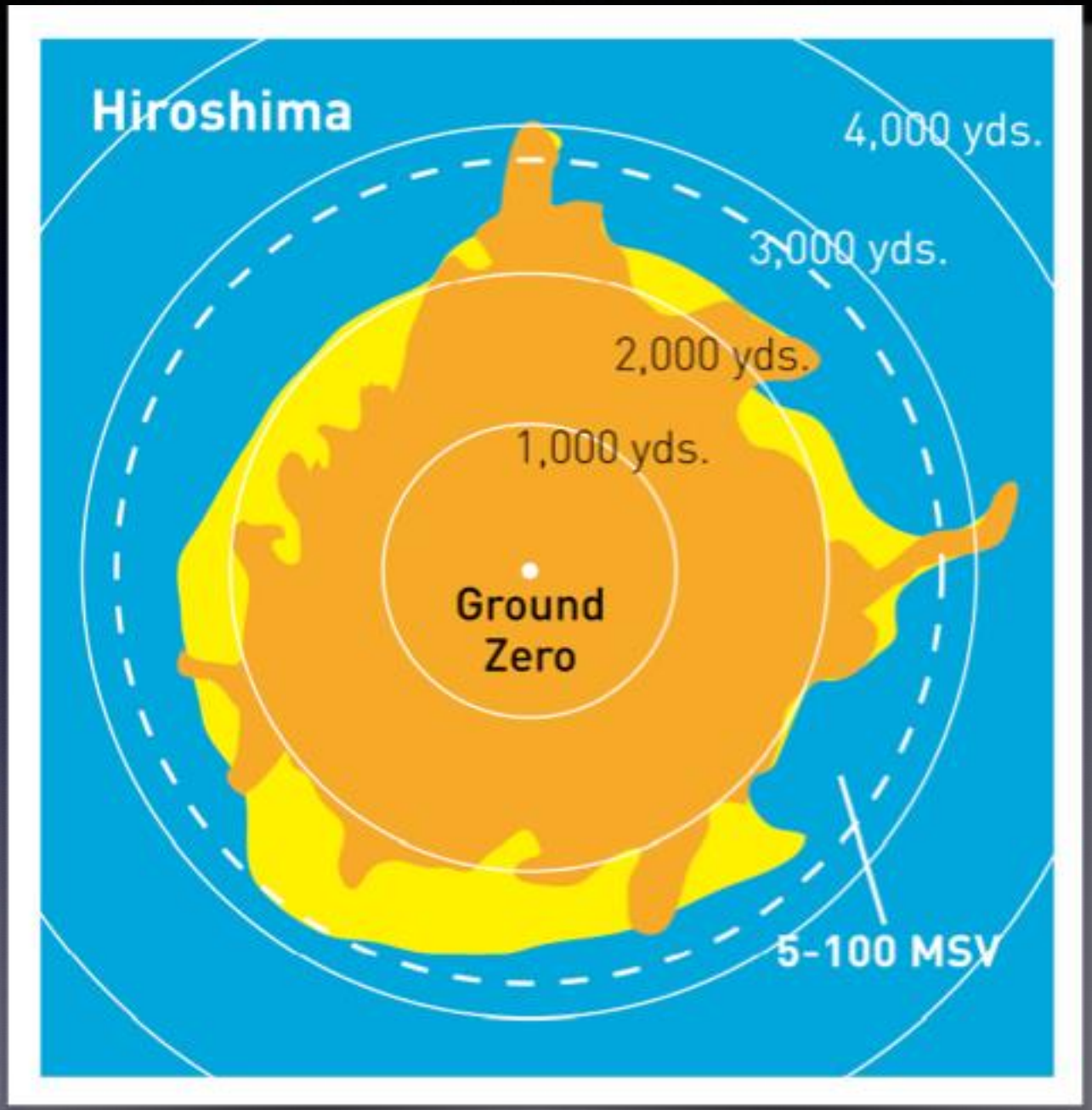
A 5-year-old child presents to your office with a three-week history of post-nasal discharge, halitosis, and cough. Her mother reports the child has been somewhat more tired than normal but has otherwise been without complaint. She was treated for an episode of acute otitis media with amoxicillin 40mg/kg/d approximately 8 weeks ago, which symptomatically improved within 48 hours. With the exception of intermittent upper respiratory infections, she is without significant medical history or allergy. On exam, vital signs are normal. Mildly erythematous inferior turbinates are noted but no mucopurulence can be seen in the anterior nasal cavity. Oropharyngeal exam reveals cobblestoning of the posterior wall and a thin streak of thick nasal secretions running down from the nasopharynx. The child's mother asks if she will need an "x-ray"?

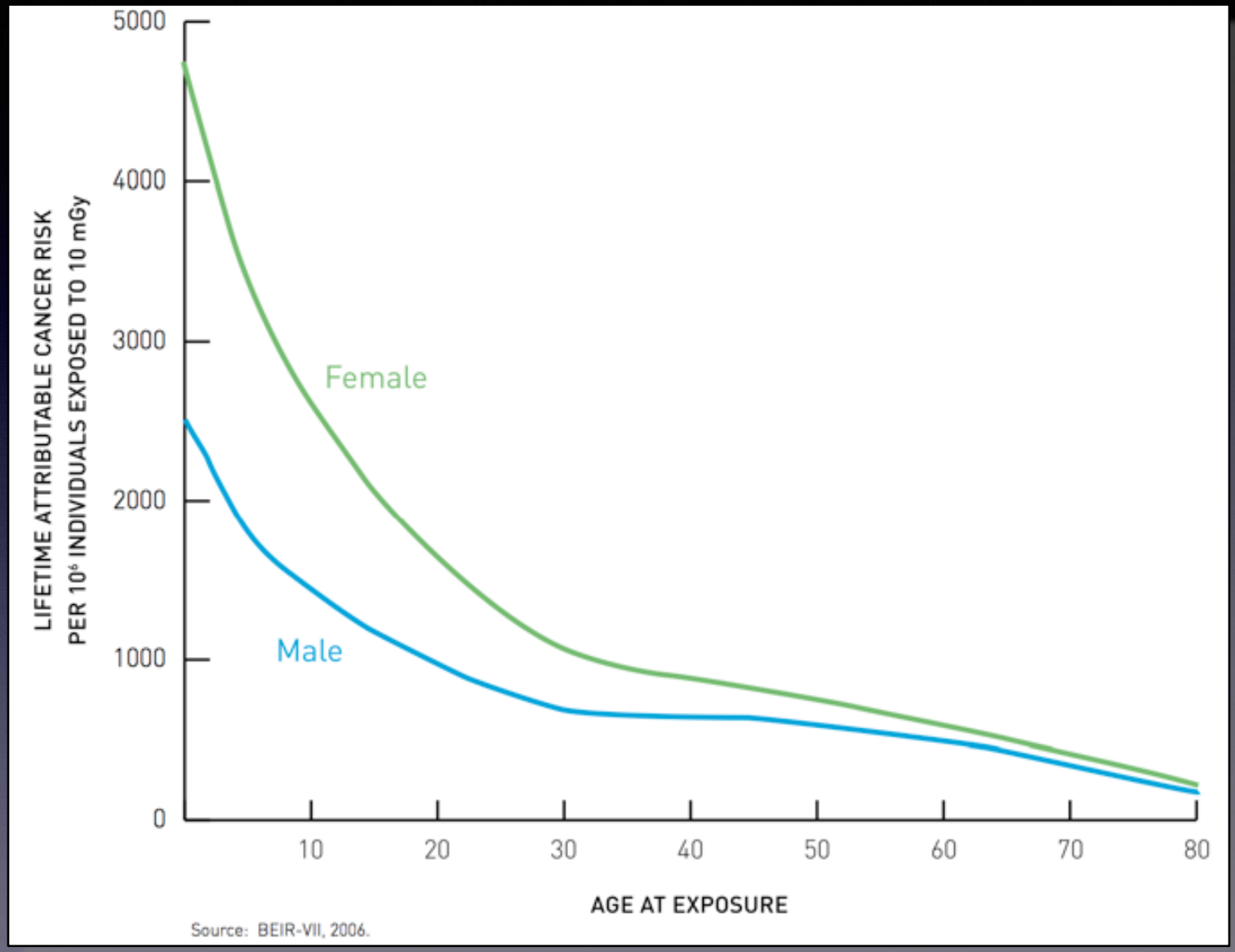





Number of CT Procedures in U.S.
NUMBER OF SCANS (MILLIONS)
0
10
20
30
40
50
60
70
80
18.3
19.5
21.0
22.6
25.1
26.3
30.6
34.9
39.6
45.4
50.1
53.9
57.6
62.0
68.7
'93
'94
'95
'96
'97
'98
'99
'00
'01
'02
'03
'04
'05
'06
'07
YEAR
Source: IMV Benchmark Report on CT, 2008.


Background
83%
Medical
15%
Background
50%
Medical
48%


Hiroshima
4,000 yds.
3,000 yds.
2,000 yds.
1,000 yds.
Ground Zero
5-100 MSV

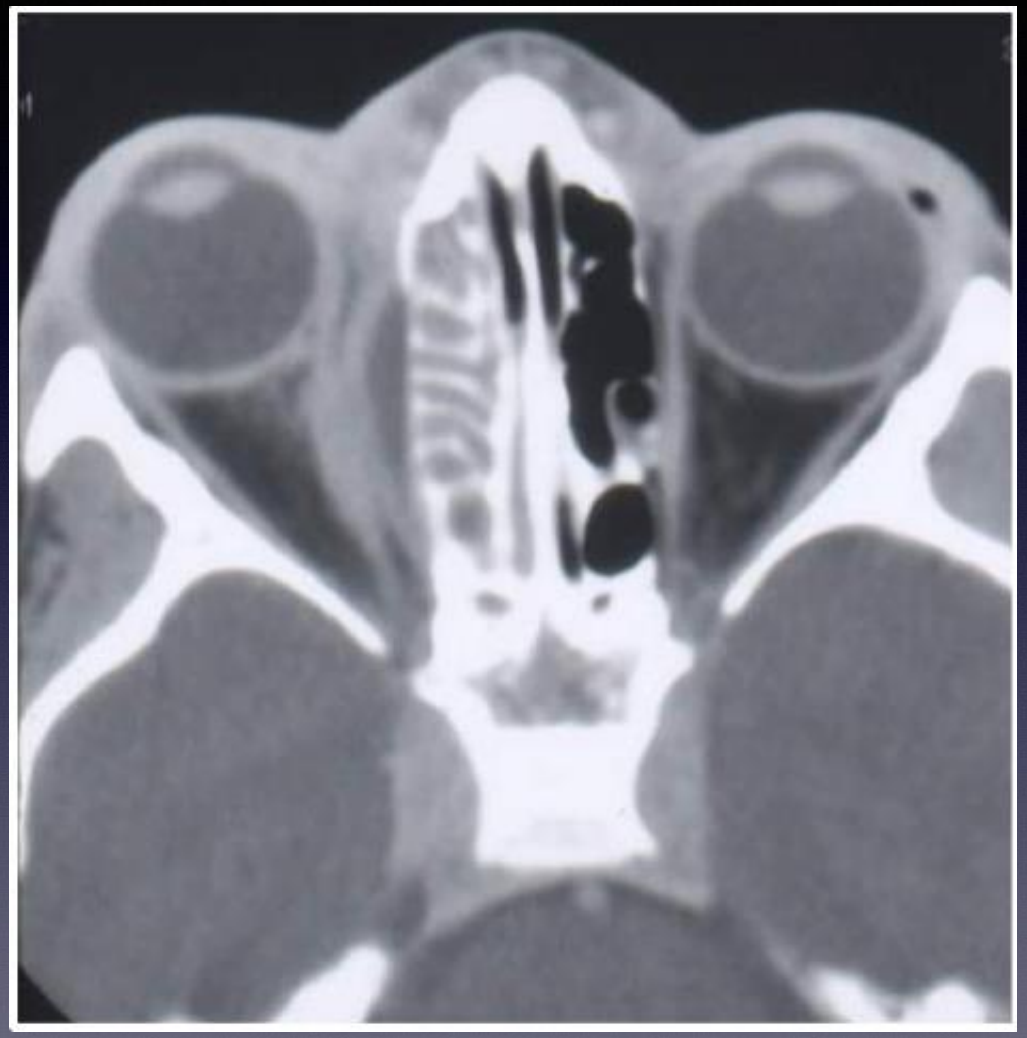

LIFETIME ATTRIBUTABLE CANCER RISK
PER 10⁶ INDIVIDUALS EXPOSED TO 10 mGy
5000
4000
3000
2000
1000
0
Female
Male
10
20
30
40
50
60
70
80
AGE AT EXPOSURE
Source: BEIR-VII, 2006.

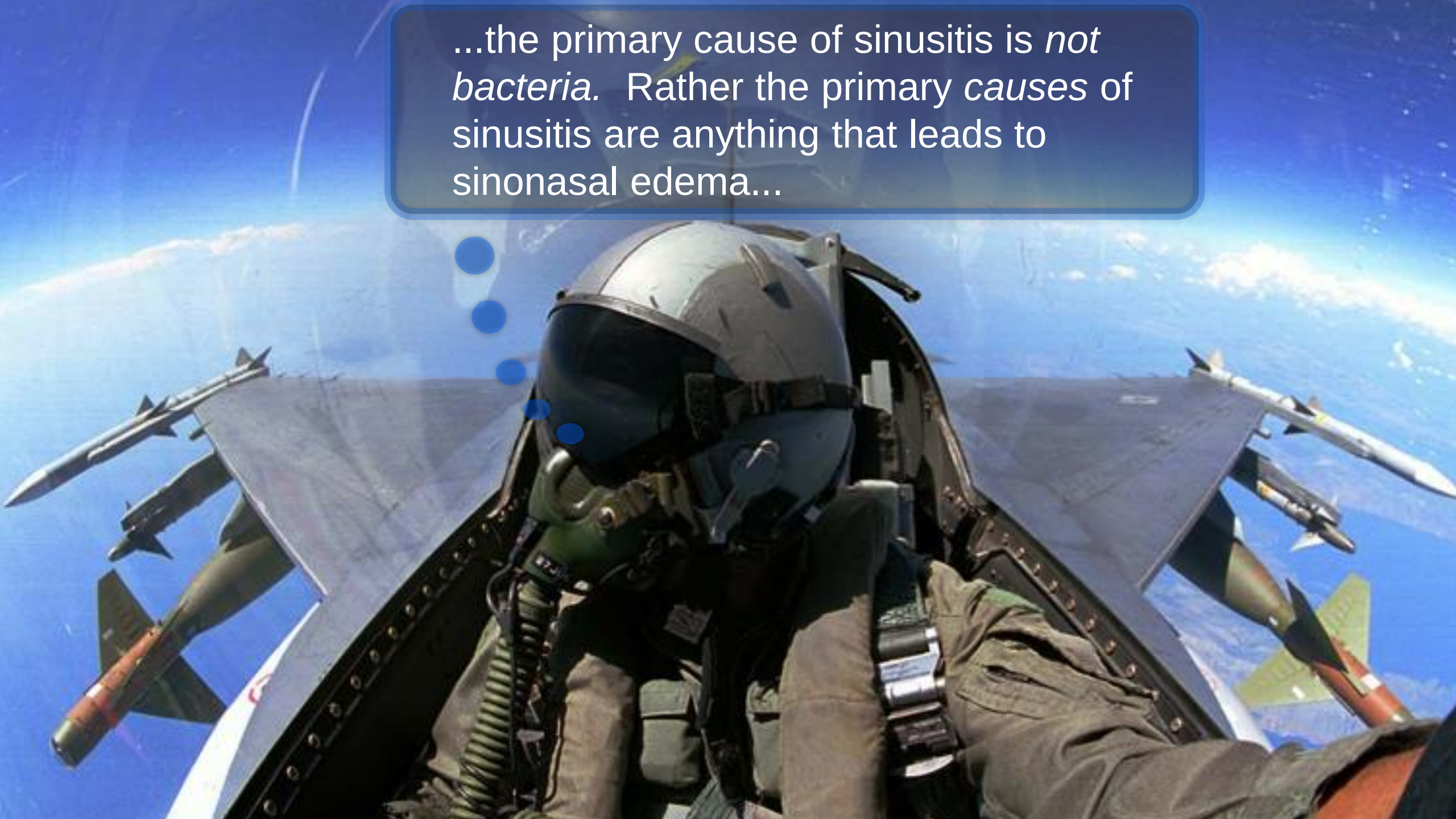
A 4-year-old child presents to your clinic with a history of sinusitis persisting over the last 3 1/2 months despite an initial 14-day course of high dose amoxicillin and follow-up regimens of amoxicillin/clavulanate and cefuroxime for 3 and 4 weeks respectively. The patient's mother reports mild improvement with symptoms while on the antibiotics but no resolution and almost immediate recurrence once antibiotics are completed. The child continues to have visible purulent nasal discharge, chronic cough, halitosis, and nasal obstruction. On close questioning, the mother denies any smoking in the home and reports that she has a history of moderate seasonal allergies which are treated with nasal steroids. The father has no history of allergies. The child attends a pre-school with 14 other children in her class. The child's medical history is significant for mild reactive airway disease never requiring admission or emergent visits. There is no history of significant lower respiratory tract infections or witnessed sleep apnea. Your approach at this point could include:

Diagnosing Allergy

Skin Prick Test

A 7-year-old child presents to the emergency room with a chief complaint of right eye swelling. His father reports he has had a “severe cold” for the last 6 days manifested by a productive cough, fever to 101 degrees during the first 48 hours, general malaise, and coryza. On waking this morning, he was noted to have a “puffy” right eye that has not become any worse over the course of the last 6 hours. There is no history of trauma and the patient is otherwise healthy. The patient notes no visual changes in acuity or pain in the area of the eye. On exam, the patient is alert and cooperative. Edema of both right eye lids with mild erythema is noted. The eye is approximately 30% closed from the edema when compared with the normal eye. No proptosis is seen. Extraoccular movement, pupil, and acuity to near card testing are all WNL. Purulent nasal secretions are noted within both anterior nasal cavities. The remainder of the physical exam is WNL. Vital signs are WNL. How would you treat this child?




...the primary cause of sinusitis is *not bacteria.* Rather the primary *causes* of sinusitis are anything that leads to sinonasal edema...

Questions?