PRESCRIPTION DRUGS FOR RHEUMATOID ARTHRITIS
End of the Lipitor years

• Lipitor (cholesterol drug) has been the number one best-selling drug for several years
  – Total annual sales in 2011 of almost $10 BILLION dollars
  – Best-selling prescription drug of all time

• A generic version of Lipitor was released in 2012 and sales of the branded drug fell to about $4 billion
The New Number I (and 2, and 3) by yearly total sales $

Note: The most commonly used drugs **by number of prescriptions written** are: antibiotics, antidepressants, and opioids.

1. **Humira** (anti-inflammatory; TNF-alpha inhibitor)  
   – $9.75 billion
2. **Remicade** (anti-inflammatory; TNF-alpha inhibitor)  
   – $8.99 billion
3. **Enbrel** (anti-inflammatory; TNF-alpha inhibitor)  
   – $8.43 billion

All three of these drugs are approved for the treatment of autoimmune/inflammatory conditions such as rheumatoid arthritis and Crohn’s disease.

- They are **VERY EXPENSIVE!** (which is why they are number 1,2 and 3 by total sales)
- One year of Remicade therapy can cost $15,000 to $20,000
- Must be injected (are not oral drugs)
Adverse Effects of Humira

- abdominal or stomach fullness
- body aches or pain
- cough or hoarseness
- ear congestion
- gas with abdominal or stomach pain
- lightheadedness
- loss of voice
- lower back or side pain
- muscle aches and pains
- nasal congestion
- pain or tenderness around the eyes or cheekbones
- rapid and sometimes shallow breathing
- shivering
- sunken eyes
- thirst
- trouble sleeping
- warmth on the skin
- wrinkled skin

Less common: A sore on the skin of the breast that does not heal

- abdominal or stomach pain
- abnormal vaginal bleeding or discharge
- agitation
- arm, back, or jaw pain
- back pain
- black, tarry stools
- bleeding from the gums or nose
- blindness
- bloating or swelling of the face, arms, hands, lower legs, or feet
- blood in the stool or change in bowel habits
- bloody or cloudy urine
- blurred vision
- broken bones
- change in size, shape, or color of an existing mole
- change in skin color
- chest pain
- chest tightness or heaviness
- chills
- clear or bloody discharge from the nipple
- cold hands and feet
- confusion
- constipation
- cough
- coughing or spitting up blood
- decreased urination
- decreased vision
- depression
- difficult or frequent urination
- difficulty with breathing
- difficulty, burning, or painful urination
- dimpling of the breast skin
- dizziness
- drowsiness
- eye pain
- fainting
- fast, slow, or irregular heartbeat
- fever
- forgetfulness
- frequent urge to urinate
- general feeling of illness
- hair loss
- hallucinations
- headache
- increased thirst
- inverted nipple
- irregular breathing
- irregular pulse
- irritability
- itching
- light colored stools
- loss of appetite
- lump in the breast or under your arm
- lump or swelling in the abdomen or stomach
- mole that leaks fluid or bleeds
- muscle cramps or spasms
- nausea
- new mole
- night sweats
- no blood pressure or pulse
- noisy breathing
- numbness or tingling in your arms, legs, or face
- pain, redness, or swelling in the arms or legs without any injury present
- pale skin
- persistent non-healing sore on your skin
- pink growth
- puffiness or swelling of the eyelids or around the eyes, face, lips, or tongue
- raised, firm, or bright red patch
- rash
- redness or swelling of the breast
- seizures
- sharp back pain just below your ribs
- shiny bump on your skin
- skin rash
- slurred speech or problems with swallowing
- sneezing
- sore throat
- sores, ulcers, or white spots on the lips or mouth
- spitting up blood
- stiff neck
- stopping of the heart
- sudden high fever or low grade fever for months
- sweating
- swelling of the face, fingers, feet, or lower legs
- swollen glands
- swollen neck veins
- tightness in the chest
- tiredness
- trouble breathing with activity
- trouble thinking
- unconsciousness
- unexplained bruising or bleeding
- unpleasant breath odor
- unusual tiredness or weakness
- unusual weight gain or loss
- visual disturbances
- vomiting
- vomiting of blood or material that looks like coffee grounds
- yellow skin or eyes

Black Box Warning Required!
What if you could reduce inflammation and relieve the symptoms of rheumatoid arthritis without all those adverse effects, and for much less money?

• Curcumin is a potent anti-inflammatory, including the ability to reduce TNF-alpha

• Does NOT have the adverse effects of prescription drugs

• Is taken orally – no injection required

• No significant adverse effects
Curcumin for Rheumatoid Arthritis

• 45 patients with RA
  – Curcumin (high absorption with turmeric oil) (500 mg)
  – Diclofenac sodium (50 mg)
  – Curcumin plus diclofenac (500 mg + 50 mg)

• Goal: obtain a reduction in the Disease Activity Score 28 (DAS 28)
  – DAS 28: combines different measurements of RA disease activity into a single index (tender joints, swollen joints, general health assessment, etc)

• Length of study: 8 weeks

• Published in *Phytotherapy Research*
Absorbable curcumin was as effective as diclofenac sodium in reducing tender, swollen joints.

- Painful joints: -83% Curcumin, -68% DS
- Swollen joints: -97% Curcumin, -88% DS

- No dropouts for adverse effects in curcumin group; 14% drop out rate in the diclofenac sodium group.
Curcumin for other autoimmune/inflammatory conditions

- Curcumin has been found beneficial for other autoimmune/inflammatory conditions such as
  - Multiple sclerosis
  - Psoriasis
  - Inflammatory bowel disease

-Dosage: 750 mg absorbable curcumin once or twice a day