MEDICATION INTERACTIONS AND PRECAUTIONS

August 2020 – HBO Monthly Meeting

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PRESCRIPTION PREVALENCE

- 50% of the population consumes at least one prescription drug a month
- 40% of older Americans take 5 or more therapeutic agents monthly

- Widely prescribed therapeutic agent that posses both biochemical and physiological actions.
- Under pressure, functions as a pharmacologic agent in that it has a therapeutic dose, a toxic dose, side effects, contraindications, interactions with other drugs, and incompatibilities with other drugs.

ROLE OF OXYGEN

- Controls bacteria at the wound site
- Needed for the production of leukocytes and phagocytosis

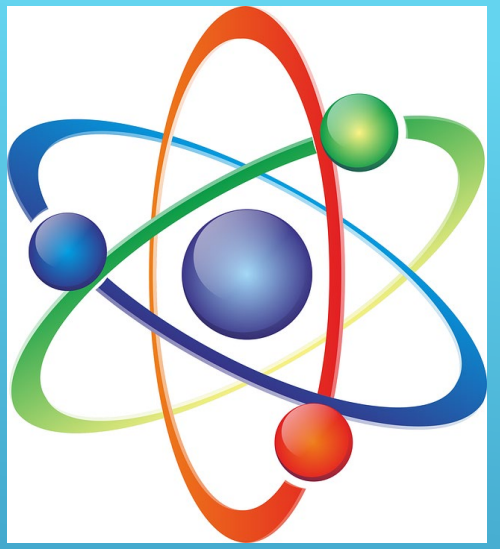
- Acts as chemical signals to stimulate growth factors for angiogenesis

- Helps with formation of collagen structure which gives the tissue it's strength and resistance

- Signals to the growth factors that it's time to bind to the epithelium

IMPORTANT TO BE MINDFUL OF MEDICATION THAT PROHIBITS THIS PROCESS

- Pharmacokinetics: the science that describes the body's action on a medicinal agent
  - Involves 4 major body functions: absorption, distribution, metabolism and excretion.



PHARMACOKINETICS

Absorption

- Rate and extent to which a drug leaves the administration site
- Once absorbed most drugs bind to plasma proteins

Distribution

- The process by which the drug leaves the blood stream and enters the extracellular fluid

Metabolism

- A biochemical enzyme-mediated reaction resulting in structure modification to the drug that changes it's biological activity and/or water solubility

Excretion

- How the drug is eliminated from the body. Often times through urine, sweat, feces, breast milk, expired air ect…

Metabolism and elimination are responsible for drug inactivation.

Without this, drugs would continuously circulate the body.

Some important and preventable drug interactions are due to their effects on drug metabolizing enzymes, resulting in either reduced activity or increased activity.

CAUTION

The following medications interact with HBOT

BLEOMYCIN

- Medication used to treat cancer
- Idiosyncratic risk of pulmonary embolism
- Recommendation: Wait for bleomycin to clear blood stream prior to start of HBOT

DOXORUBICIN (ADRIAMYCIN)

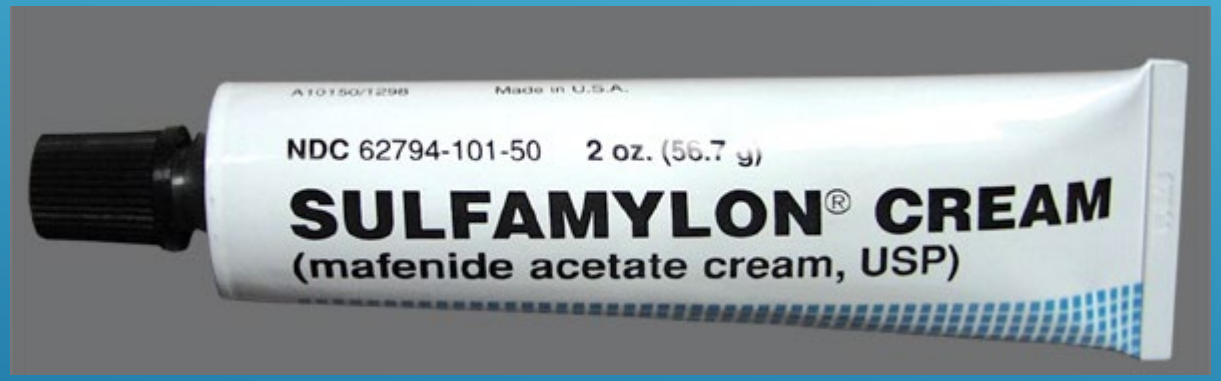
- Medication used to treat cancer
- A study found that HBOT given concurrently with Doxorubicin to rats resulted in cardiotoxicity
- Recommendation: Wait until last dose has cleared from blood stream before starting HBO.

VOTRIENT

- Medication used to treat cancer
- VEGF inhibitor
- Recommendation: Wait 3-5 days to start HBOT

SULFAMYLON (MAFENIDE ACETATE)

- Interferes with carbonic anhydrous
- Recommendation: discontinue medication prior to HBOT.



POP QUIZ

BLEOMYCIN (BLENOXANE) –IDIOSYNCRATIC RISK OF PULMONARY TOXICITY.

IDIOSYNCRATIC MEANS _____?

TRUE OR FALSE?

HIGH PRESSURE OXYGEN IS A DRUG THAT HAS DIFFERENT EFFECTS ON OTHER DRUGS, THAN NORMALBARIC OXYGEN.

WHAT ARE THREE CHEMOTHERAPY MEDICATIONS THAT WE SHOULD BE CAUTIOUS OF AND WHY?

WHAT ARE THE TWO MOST COMMON NEGATIVE SIDE EFFECTS IN HBOT?

1.
2.

QUESTIONS?