**STOHN BONJ PROCESS DEVELOPMENT**

James B. Mazock, MS, DDS  
Private Practice OMS  
San Antonio, TX  
Clinical Adjunct Professor  
Dept of OMS  
UTHSC-SA

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**Process**

- Formation of Network  
- Affiliation with PBRN  
- Pilot Study  
- STOHN member meeting  
- Development

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**network formation**

- May 2008: Clinical Translational Science Award (CTSA)  
- Included Funds for PBRN  
- Dr. Michael Parchman & Holly Hayes co-direct PBRN resource center  
- STARNet and RRNet  
  - 25 years combined experience at PBRN  
  - Serve as models for UTHSC PBRN

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**Organization**

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**STOHN meeting**

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**Fear**  
**Confusion**  
**Uncertainty**  
**Risk**  
**Panic**  
**Warning**  
**Litigation**
How much do we need to know?

Fear = Neglect
Jump into unknown = Trouble

1st Generation – oral bisphosphonates
- Introduced in 1990’s
- Improve bone quality in Paget’s Disease
- Osteoporosis
- Alternative to HRT in post menopause women
- Prevent fractures of spine, wrist and hip
- 2nd to corticosteroid use, SLE, RA.
- Injectable introduced for pts with dosing difficulties, inability to sit upright for 60 mins or swallow tablets

2nd and 3rd Generation – IV bisphosphonates
- Hypercalcemia of malignancy
- Prevent metastatic tumors in breast, lung and prostate cancer
- Prevent bone complications and pain in multiple myeloma and kidney disease
- Prevent post operative fractures and weakness in kidney, liver and cardiac transplant patients

Wonder Drug?
- 19th most prescribed drug group worldwide
- Synthetic analogues of pyrophosphates
- Not metabolized
- ½ absorbed dose is distributed to bone
- Increase bone density and thickness
- Prevent tumors from removing bone and spreading
- Inhibit differentiation of bone marrow cells into osteoclasts
- Inhibit Osteoclast activity
- Reduction in bone turnover and resorption
- Reduce local release of factors that stimulate tumor growth

Side effects
- Osteoclast function severely impaired
- Osteocytes not replaced
- Capillary network in bone not maintained
- Bone becomes too dense choking capillary network
- Avascular bone necrosis
- Osteonecrosis

Incidence of BONj in Maxilla and Mandible
- 3000 world cases
- 191 million prescriptions
- Mostly associated with intravenous (IV) bisphosphonates
- Zometa (Zoledronic Acid)
- Aredia (Pamidronate)
- Mostly following dental extractions or periodontal surgery
- Some spontaneously
- Chronic infection
- Trauma
Facts

- IV Bisphosphonate = higher risk for BON
  - 50% of dose is bio available for bone matrix
- Oral bis-phosphonate = low risk for BON
  - 1% of dose is absorbed by GI Tract
- Time
  - Half life is 8-10 years

Risk Assessment?
- Recent assessment test for necrosis potential
  - Arun Garg/Marx - Miami
  - C-Terminal Telopeptide (CTX) — marker for serum bone turnover
  - scores = controversial

Why a dental problem?
- Bony Sequestrum
- Necrotic Bone
- Masticatory Forces
- Chronic Low Grade Trauma
- Unable to repair micro-fractures

What's Been Studied
- Only reported cases
- Worst cases in IV
- How many are related to “Oral” doses
- What’s risk for “Oral” doses
  - Time dependant?
  - Dose dependant?
  - Drug dependant?
- Treatment

STOHN BONJ Study
- “Oral” route most commonly seen in our practices.
- What are practitioners doing when encountered.
  - Basic Treatment
  - Referral??
- Baseline education level
  - Is literature doing it’s job?
  - Altered treatment plans?
BONJ Study development

- Formulated the question.
- Gathered current literature
- Formulated Hypothesis
- Developed study plan and parameters
  - Developed survey
  - Decided who to survey
- Gained IRB approval
- Survey
- Data Collection and Statistics