



Just the Facts, Ma'am: A Perspective on the Bisphosphonate Dilemma

Sunday, April 29, 2007

Dr. Marshall Wade D.D.S.
Arden Hills, MN

There is plenty to do and see at *your* meeting...
Star of the North 2007!

Sunday, April 29

- * Visit with Exhibitors 11:00 AM – 5:00 PM
- * Health Screening 11:00 AM – 2:00 PM Exhibit Hall
- * Enjoy lunch at the Onsite Café: 11:30 AM – 2:00 PM
- * Thrill to the Keynote – Jeff Salz - "The Adventure of Change" 1:30 PM Rooms BCDFGH
- * Marvel at the "Art of Dentistry" Photo Exhibition 11:00 AM – 5:00 PM Rotunda
- * Earn CE credits at the MDHA Student Table Clinics 3:00 PM – 4:30 PM Meeting Room Level
- * Stay for the Sunday "Sundae" Social Reception and Grand Prize Drawing – Kellogg Lobby 5:00 – 6:00 PM

Monday, April 30

- * Visit with Exhibitors 8:30 AM – 3:00 PM
- * Health Screening 8:30 AM – 2:00 PM Exhibit Hall
- * Earn CE credits at the MDA/Grad Student/MDAA & Exhibitor Table Clinics – 10:00 AM – 12:30 PM Meeting Room Level
- * Deposit "Monday Afternoon Only" Drawing Ticket – 12:30 PM – 3:00 PM- Exhibit Floor Lounge

EXHIBIT HALL HOURS

Friday Exhibit Hall Closed for
Set-Up
Saturday 10:00 AM – 5:00 PM
Sunday 11:00 AM – 5:00 PM
Monday 8:30 AM – 3:00 PM

Join us for
**Star of the North
2008**
New 3-day format
April 10 - 12, 2008

Official Disclaimer: Neither the contents of a program nor the use of specific products in courses should be construed as indicating endorsement or approval by the Minnesota Dental Association of the views presented or the products used. As a CERP approved sponsor of continuing education, the Minnesota Dental Association requires that presenters identify their relationships with commercial manufacturers, suppliers, or other commercial entities. Disclosure of these commitments and/or relationships is published in the meeting materials so participants in the activity may formulate their own judgments regarding presentations.

We wish to thank our
Gold Star Package Exhibitors
for their continued support of
your dental meeting!



**CUNNINGHAM
FINANCIAL GROUP™**

On Assignment[®]
Healthcare Staffing

Visit us at Booth 565

PLANMECA

 **Sullivan-Schein**
A HENRY SCHEIN® COMPANY
Everything Dental.™

tdic
INSURANCE SOLUTIONS, INC.

 **Ultreo**
the ultrasound toothbrush

BISPHOSPHONATE INDUCED OSTEONECROSIS OF THE JAWS
Marshall L. Wade, D.D.S.

- I. Introduction
- II. Definitions
 - A. Osteoradionecrosis
 - 1.
 - B. Phossy Jaw
 - 1.
 - C. Avascular Necrosis
 - 1.
 - D. Osteopetrosis
 - 1.
 - E. Bisphosphonate induced osteonecrosis of the jaws (BIONJ)
 - 1. Requirements for diagnosis
 - a.
 - b.
 - c.
- III. History
 - A. Literature
 - 1. 2002
 - a. Marx and Stern
 - 2. 2003
 - a. Marx – JOMS

- b. Manufacturer's response
- 3. 2004
 - a.
 - b.
- 4. FDA Action
- 5. Wall Street Journal Article
- 6. 2006
 - a. Marx publishes text devoted solely to BIONJ

IV. Normal Bone Metabolism

- A. General Control
- B. Cellular Component
 - 1. Osteoblast
 - 2. Osteoclast
 - 3. Osteocyte
- C. The Rank Ligand System
 - 1. RANK
 - 2. RANK-L
 - 3. OPG
 - 4. IGF, IGF₂, BMP

V. Abnormal Bone Metabolism

- A. Metastatic Bone Cancer
- B. Osteoporosis

VI. The Bisphosphonates

A. Table 1

Table 1

Name Generic	Use CA=Cancer OP+Osteoporosis	Route	Dose	Potency
Alendronate	OP	Oral	70 mg/wk	1
Residronate	OP	Oral	35 mg/wk	1.5
Ibandronate	OP	Oral I.V.	150 mg/mo 3 mg/3 mo	4
Pamidronate	CA	I.V.	90 mg/mo	2
Zoledronic Acid	CA	I.V.	4 mg/mo	20

B. Pharmacodynamics

1. Uptake
2. Half life
3. Mechanism of action
 - a.
 - b.
 - c.
 - d.

4. Time to Onset of BIONJ
 - a. I.V.
 - b. Oral

VII. Incidence

- A. Difficulties in establishing incidence
 1. Recognition
 2. Communication with patients
 3. Number of people taking medications
- B. I.V. Bisphosphonates
 1. Chart Review
 2. On-Line Survey
- C. Oral Bisphosphonates
 1. Merck Data
 2. Australian Data

VIII. Patient Care

- A. Presenting Signs
 1. Exposed bone and pain
 2. Asymptomatic exposed bone
 3. Mobile teeth
 4. Fistulae
 5. Other
- B. Location
 1. Mandible

2. Maxilla

3. Both

C. Imaging

1. Radiograph

2. CT

D. Laboratory Exam

1. CT_x

a. Low risk

b. Moderate risk

c. High risk

IX. Treatment

A. Staging

0 - Asymptomatic, no exposed bone

Taking I.V. Bisphosphonates

Taking oral Bisphosphonates > 3 years

I - Asymptomatic exposed bone

II - Exposed bone

Pain

Soft tissue or bone infection

III - All of the above plus

Pathological fracture, or

Extra-oral fistula, or

Osteolysis extending to the inferior border

B. Therapy

1. Stages

- 0 - Defer treatment if possible
Obtain CT_x
Treatment based on CT_x level
- I - Chlorhexidine oral rinse
Coordination with Oncology for I.V. Cases
Possible drug holiday in oral patients
- II - Culture
Appropriate antibiotics
- III - As above
Possible resection
Adjunctive treatment

Antibiotics

Pen VK 500 mg	1 every 6 hours x 10 days
Amoxicillin 500 mg	1 every 8 hours x 10 days
Metronidazole 500 mg	1 every 6 hours x 7 days
Azithromycin (Zithromax)	500 mg initial dose, then 250 mg daily x 5 days total
Levofloxacin 500 mg	1 daily x 10 days
Vibramycin 100 mg daily	1 daily
Metronidazole	500 mg every 6 hours x 7- 10 days

Antifungals

Nystatin oral suspension	5-15 ml qid x 10-14 days
Mycelex troches (clotrimazole)	5 daily x 10-14 days
Fluconazole	200 mg initially, then 100 mg daily

X. References and Resources

A. Literature/Citations

1. www.lionsgateleadershipcoaching.com

B. Clinical Questions

1. drwade@maplewoodoms.com
2. Grand Rounds in Oral Systemic Medicine
 - a. Bisphosphonate Induced Osteonecrosis of the Jaws; A Clinicians Guide
 - 1) <http://gr.pennet.com>
May 2007

C. Lectures/Wecasts on BIONJ

1. info@lionsgateleadershipcoaching.com
2. 773/304-6879