

# APSC-349 Applied Science Internship

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Amboy Dental Group

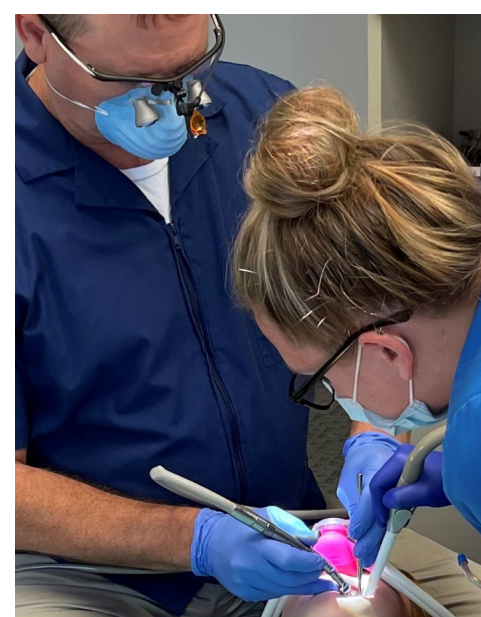
with Dmitry Kadnikov, Program Director of the B.S. in Applied Science at UW-Stout

## Overview of the company/organization

### Amboy Dental Group

Original dental practice was established in 1940s by David Shapiro at 4<sup>th</sup> South Jones Street in Amboy a , IL. He practiced solo until Dr. Jerome Hochstatter joined in1959. They both practiced until 1975. Dr. Reck partnered with them in 1975, and Dr. Shapiro retired that same year. All three practiced till 1982. The name of the practice was Hochstatter and Reck Dental. Betsy Shapiro joined in 1991 them and all three practiced until Dr. Joel Hochstatter joined in 1999. Dr. Jerome and Betsy retired in 2001. The practice transitioned to Reck and Hochstatter Dental. An associate was brought in known as Dr. Robert fox. All three practiced together until Dr. reck passed away in 2004. The practice was then just Hochstatter dental. Dr. Hochstatter and Dr. Fox practiced until 2012 until Dr. Klein joined. Dr. Fox retired that same year. 2014 is when Amboy Dental Group was established. Only general dentistry was practiced in Amboy. They currently practice general dentistry that include routine cleanings, periodontal scale and root cleanings along with some minor periodontal surgery, dental extractions, fillings, crowns, dentures, implant placement and restoration, cosmetic treatments etc.

- Dental Services
- Hygiene cleanings/treatments, composite/amalgam restorations, surgical oral extractions, root-canals, bridge restoration, dentures, implants, retainers, night guards, calculus removal, crowns, dental checks for medical treatment
- Laser procedures Research (Frenectomy/ Exposure treatment)

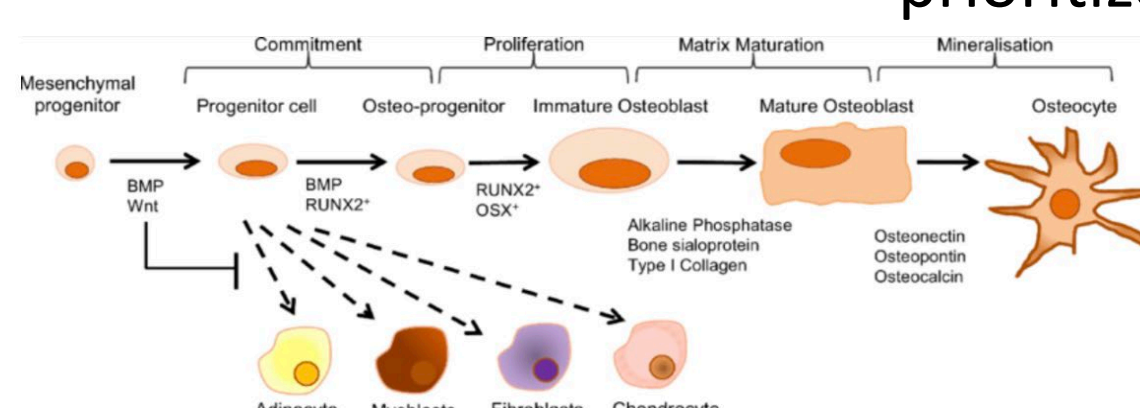
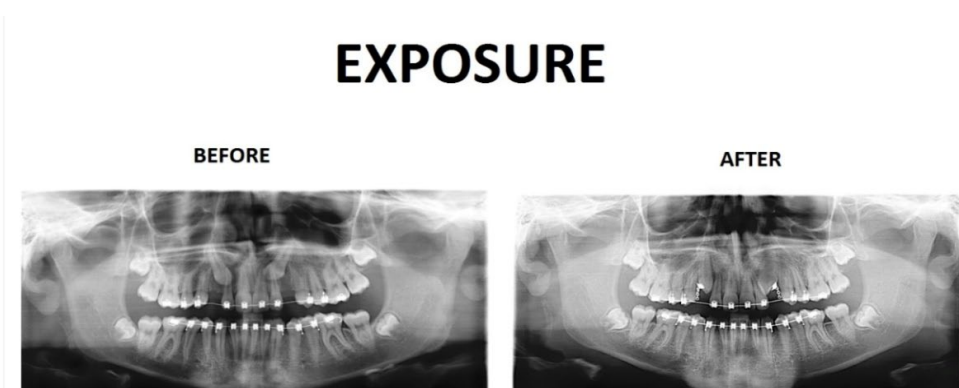


## Duties

- Assist all dental procedures
- Sterilization of tools, lab, and treatment area
- Procedure set up
- Alignment Impressions
- Dental cement/impression material/modelling clay mixtures
- Dental model (anatomic portion) diagnostic casts
- Administration work (scheduling, patient records, etc.)
- Patient comfort
- Research analysis/organization

## Science at Work

- what science was involved at any aspect of your institution or company? Laser treatment has been shown to increase the osteoblast cell proliferation, resulting in the stimulus of osteogenesis and increase bone density on treated site . The laser cauterizes the tissue, killing bacteria and reducing inflammation, also accelerating healing time.
- The frenum uses forces to pull the gum from the root altering how the tooth will grow and placement



## UW-Stout Skills Utilized

- Laboratory safety
- Physics 242 and 282
  - Relationship between the forces on teeth that impact placement, growth, and injury/damage
- Chemistry
  - Enamel formed from hydroxyapatite, calcium, phosphate, and hydroxyl groups, carbonates and protein. The bundles form a pattern to prevent cracks
  - Anesthetics have an aromatic ring (ester or amide link and amine group)
  - Aromatic ring provides lipophilicity, allowing drug to cross cell membranes and enter nerve cells
- Biology
  - Osteoclast differentiation
  - Osteoclasts essential for development of eruption pathway; precursors recruited to dental follicle when tooth eruption is initiated
  - Osteogenesis

## Acquired and Refined Skills

- Patient Comfort strategies
- Assisting dexterity through impression plate customization, drawing anatomy, common dental school drawing techniques
- Clinical research experience
- Dental procedural/terminology clarity
- Administrative skills (patient charting and scheduling)
- Communication skills with Doctors, coworker, and patients

## Advice to the Next Class

- what one or two things would you have wanted to know about the experience that you didn't know going in?
  - scheduling pace of an orthodontal practice compared to a general dental practice
  - Anatomy of the mouth
- Advice:
  - Study the physiological aspects of dentistry
  - Acquire skills in perceptibility and dexterity
  - Create patient comfort
  - Study dental procedures, materials, and instruments

## Future Outlook

- is this a job you could see yourself doing? why or why not? Yes, after assisting multiple dentist I have learned the skills needed to be successful such as:
  - Dexterity
  - Academic intelligence (biology, physiology, chemistry, pharmacology, physics)
  - Emotional intelligence
  - Spatial awareness
  - Perceptibility
  - Artistry
- Has the internship influenced your career path in any way? Yes, after researching under an orthodontist, I am curious to learn more about orthodontics. I still admire the dexterity and artistic ability used in General Dental practice.

## Acknowledgements

- Thank you to Amboy Dental Group for accepting me as an internship candidate, advisement, and overall learning experience under exceptional dentists and dental hygienists. I am grateful for the connections created as a result of Amboy Dental Group and creating an opportunity to research beyond general dentistry. Thank you Dr. Kunnel for the opportunity to work and research under your direction on laser treatments in orthodontics.
- Thank you, Dr. Klein, for the opportunity to assist and shadow. I appreciate the academic directions provided, emotional advice, and overall explanations of the academic relationship to general dentistry. It was an honor to work for a intellectual general dentist who prioritizes the care of his patients.



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