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Lane Community College Dental Hygiene Program

SPECIALTY OFFICE OBSERVATION: DR. W. GRAY GRIEVE'S ORTHODONTIST OFFICE

Visited October 30, 2014

Date and Time: October 30, 2014, 9:00 am to 12:00 pm
Office Visited: Dr. W. Gray Grieve's Office; Eugene, OR
Specialty: Orthodontics

Describe, in detail, the treatment procedures you observed the specialist provide:

Though I did observe the orthodontist providing services to patients, the services that were provided involved a lot of preparation and completion by the dental assisting staff, so those steps will also be discussed also in this paper. The services I observed include two debonding procedures for orthodontic appliances (one for Invisalign, the other for traditional braces), then bonding of two full sets of fixed retainers (mandibular and maxillary for each of the two patients that had their appliances removed), the placement of expanders on both the mandibular and maxillary arch of one adult patient, and the switching out of bracket colors on a juvenile's braces.

Removal of appliances

Prior to seeing the orthodontist during this visit, dental assistants Amanda and Victoria prepared their patients by removing the bulk of orthodontic appliances and bonding materials. Surgical wire cutters were used to remove the wires from the traditional braces; then a gel etchant was used to dissolve the bonding material enough so that the brackets could be removed. For the patient with Invisalign, the bulk of the "buttons" were removed using a high speed handpiece, leaving about 1-2 mm of bonding material closest to the tooth structure on each bonded tooth. Next Dr. Grieve arrived to fine tune the removal of the residual bonding material. The process for removing the residual cement was the same for both patients. First Dr. Grieve used a round bur, and followed

up with a flame tipped bur. During this process, the assistant stood and used high speed evacuation to remove debris from the field. Once the material was adequately removed, the dentist had each of the assistants polish the tooth surfaces using a rubber cup polisher and D-lish prophy paste.

Placement of fixed retainers

This procedure also contained the same steps for both patients. A dry working field on the mandible was created by the assistant using the air/water syringe. Purple etchant gel was applied using a small brush to the lingual of each tooth from canine to canine. The assistant then used what they called a "scaler" (which was a straight shanked universal curette that I did not recognize) to remove debris and calculus from the flat lingual surfaces. The patient was then rinsed using air and water simultaneously and the high speed evacuator. Then she dried the working field once again. Floss was then looped through two of the embrasures (the looped end on the lingual, the two ends of each piece of floss coming out of the front) to use to hold the arch wire in place during cementation. Forceps were used to position the wire (which is precut using the patient's dental models as guides). The assistant then depressed a button to signal to the dentist that her patient was ready. Dr. Grieve then placed a cheek retraction device in the patient's mouth and used indirect vision and the scaler to check the position and shape of the wire. He then removed the floss and wire to begin preparing for cementation. A flat green stone was used with the high speed handpiece to create a more adherent surface on the lingual of the teeth. More etchant was applied, this time directly from the syringe, and then spread using a small brush. The patient was given a rinse and had their mouth evacuated with the regular suction. Floss was once again looped through the embrasures and the wire was

placed again. Air and evacuation is used to remove saliva/moisture. Transbond XT omposite from the 3M Composite Gun was applied over the top of the wire to adhere it to the flat lingual of both mandibular canines. A handheld curing wand –Ortholux Luminous- was used to cure twice for about 5 seconds (10 total). Next the floss was removed and the field was dried again using air. Using the composite gun, Dr. Grieve applied composite to the lingual of all the teeth in contact with the arch wire, and then used a brush to perfect placement of the composite. Each individual spot was then cured for a few seconds each.

For the maxilla, the process was very much the same, except procedures were done from 12 o'clock. Once the maxillary arch wire was placed, occlusion was checked with articulating paper. On one of the patients, a high speed greenie disc was used to buff down composite away from the incisal edge for proper occlusion and patient comfort. The assistant used high speed suction during this process. To complete the procedure the assistant polished using a slow speed handpiece. Each of the patients were handed a mirror and OHI is given. It was recommended that the patients imagine what the arch wire looks like while doing homecare. Floss threaders and floss picks were explained and demonstrated. Eating caramel apples was discouraged (these appointments took place the day before Halloween). Finally, new impressions, radiographs, and patient photos are taken to complete the process.

Placement of maxillary and mandibular expanders

The patient who received the expanders was fairly untypical. Usually expanders (also referred to as spacers) are placed on children before permanent dentitions are in place;

however, this placement occurred on an adult. I was told by one of the assistants that the patient's teeth were so crowded that she could not even floss. An E-arch was used on the maxilla and a Quad-Helix (spring loaded) was used on the mandible. For both arches, the two metal matrix bands of the expanders were placed over the patient's first molars. On the mandible, Dr. Grieve used locking forceps to adjust the position of the band before moving the spring along the expander to expand it outward. Rubber bands were placed to hold the shape of the expander. The expander was then removed from the mouth so that the assistant could add Transbond XT composite cement onto the matrix bands. Using a band pusher, the matrix bands were seated back over the first molars. A cotton roll was used to remove excess one side at a time. Each side was then light cured for approximately 20 seconds. The same process was used for the maxillary expander (minus the use of the spring). A small greenie is used with the high speed handpiece and high speed evacuation to smooth out edges. The assistant then used scissors to cut and remove the rubber bands. The last step before OHI and dismissal was to polish the dentition with prophy paste and to give the patient a good final rinse. The patient was given wax to apply to the bands to prevent tissue irritation and encouraged to use her water flosser.

Changing of bracket colors on traditional brace

The colored bands were removed from the braces using the scaler and replaced by ones of the patient's choosing (purple and orange in this case). Adequate daily key turning was discussed with the patient as it looked like the key had not been turned since the patient's last appointment. After demonstrating how to turn the key, it was discovered that the patient's mother just was not turning the key far enough. Once the braces were nice and

tight, the excess wire was clipped off using wire cutters. A new key was given to this patient, as well as more wax.

In addition to the procedures you observed, list the other services typically provided by this specialty office:

- Traditional orthodontic braces and "buttons" for removable braces (Invisalign) are placed.
- "Buttons" for removable retainers are placed.
- Traditional impressions for treatment and retainers, digital impressions (3 dimensional mapping of the dentition), and radiographs (specifically panoramic) are taken.
- Adjustments to existing appliances are typically formed during appointments at intervals determined by individual patient need.
- Referrals to other dentists/specialists are made on a case by case basis (emergency care, prophylactic care, etc.).
- Appliances [not including Invisalign] are fabricated onsite and provided to patients/placed.
- Photographs of patients' dentitions (*before* and *after* treatment) are taken.

List all of the office team members and briefly describe their roles and responsibilities:

- Crystal, Amanda, and Victoria are Dental Assistants. Their primary roles include preparing the patients and oral surfaces for the dentist, taking preliminary images

(radiographs, impressions), rinsing and dismissing patients, restocking supplies, disinfecting and turning over chairs, and sterilization room management.

- Mike is the "lab guy." He trims impressions, makes molds and models from impressions, and fabricates appliances using dental impressions as guides.
- Stephanie is the Treatment Coordinator. She works with patients to help them choose the best treatment options, and also helps to make sure they are financed and can afford the chosen treatment plan.
- Danny is the Financial Coordinator. His job is to take care of the financial aspect of running the office.
- Carrie and Falon are the Relationship and Schedule Coordinators. Their responsibilities include scheduling patients, confirming appointments, basic receptionist and administrative assistant-type duties (copying, billing, etc.).
- Dr. Grieves is the only dentist in the office. His specialty is orthodontics.

If the office employs a dental hygienist, describe in detail the scope and extent of his/her role in the specialty practice:

Dr. Grieve does not employ a dental hygienist, though he does often refer patients to regular dental offices for appointments with hygienists for prophylaxis, NSPT, etc. appointments. Fun Fact: Dr. Grieve's wife is a hygienist [from a different office] and just recently retired.

Briefly describe the components of the client record that are specific to the specialty practice and explain their use. Describe practice management software if applicable:

In this office, chart notations are done primarily on paper as what is charted is fairly minimal. The notes are not filled out chairside but are instead done after the appointment. They use a basic tracking sheet which serves as both chart notes for services provided, as well as a sheet used for billing purposes. Only the date, type of treatment, billing code, next appointment, and comments are recorded on this sheet. There are generally no assessments (beyond images), medicaments, or anesthetic procedures to record in orthodontic offices as the procedures are minimally invasive. Medical history and vitals are not updated/taken at each appointment for every patient.

This office uses an orthodontic-specific computer program called Orthotrac for the digital portion of their charting. Within this chart are contained patient radiographs, digital images (including images of projected progress over time), and before and after patient photographs are found. This program is also used to track patient appointments. The front desk makes appointments using this program, and patients are able to check themselves in for their appointments by clicking on a picture of themselves on the "check-in" monitor in the waiting room.

Describe sterilization, disinfection, and infection control procedures used in the specialty practice. Describe any techniques, materials, products or protocols that differ from those used in the LCC dental clinic. Include your opinion and rationale as to whether or not LCC should adopt these techniques, materials, products or protocols.

Team members at this clinic process their own trays and instruments (not Dr. Grieve). In their sterilization area, there is one ultrasonic bath, one autoclave, and one statim. The room is in a U-shape with processing of used and clean instruments on the opposite ends of the U. They do not have a holding solution for soaking instruments, but instead put instruments directly in the

ultrasonic if it is available. Otherwise instruments wait on the counter to enter the ultrasonic. Masks are not worn in the sterilization area, and gloves are not worn to retrieve clean instruments, trays, etc.

PD wipes are used to wipe dental units using the wipe-soak-wipe method. Barriers were limited to paper head rest covers. I felt like their infection control procedures were very minimal and would not recommend that LCC adopt any that differ from our own.

Write rationale for referral from a general dentist to this type of specialist:

Although general dentists can provide a wide array of orthodontic treatment, they often refer to orthodontists when patients present with the following issues (especially when severe):

- Overbite
- Underbite
- Crowded Teeth
- Crossbite
- Improperly Spaced Teeth

Orthodontists have completed 2 year residencies beyond dental school that give them the skills to be able to handle issues with malocclusion and aesthetic concerns more readily than general dentists.

Include your unique, personal observations and reflections regarding your visit:

There was a lot about this office that I thought really worked well and created a nice atmosphere for both patients and employees. Though all the treatment chairs were contained in one open room, they were spaced enough and angled in a way that made them seem more separate, more private. The clinic also has a tooth brushing station next to the lobby, which is something I felt was a great idea! Dr. Grieve also always knows where he is needed because each patient chair set up had a set of color-coded buttons that blinked when depressed and would light up buttons on a main panel, signaling what kind of treatment was ready for the orthodontist, as well as which chair it was needed at. Very cool! They also employ a rewards system for compliance for their younger clients that entails earning "cool cash" that can be used at Valley River Center. The staff was very friendly and helpful; it seems like a great atmosphere to work in.

What I felt was odd about this clinic was that the chairs only reclined; the height was un-adjustable. They also do not provide their patients with safety glasses, nor do the operators wear eye protection or jackets. The staff is allowed to have cups with lids and straws in the clinical space. Though the staff were all super nice, I felt like they tiptoed around Dr. Grieve. He was a lot less warm coming in as a student than he seemed when I visited his office as a patient (I had Invisalign treatment through his office between 2012 and 2013).