

**REDUCING WMSD FACTORS**

Participatory ergonomics ensures both the operator and patient are comfortable.

**MEET THE AUTHOR**

Benita Altier, LVT, VTS
(Dentistry)

Benita Altier is a Licensed Veterinary Technician (LVT) and Veterinary Technician Specialist (VTS) in Dentistry. She has worked in the profession since 1988 in both general small animal practices and at an equine and llama neonatal referral hospital. Through her business, Pawsitive Dental Education, she has been bringing professional dental instruction to veterinary hospitals and conferences across the US and Canada since 2008. Benita enjoys motivating and encouraging other veterinary professionals to do their very best and learn something new every day. Advocating for the oral health of pets and prevention of oral pain in animals is her passion. She currently resides in the state of Washington.

Courtesy Highland Veterinary Hospital, Arapaho, Oklahoma

Participatory Ergonomics Solutions for Veterinary Dentistry

Participatory ergonomics has been defined as “the involvement of people in planning and controlling a significant amount of their own work activities, with sufficient knowledge and power to influence both processes and outcomes in order to achieve desirable goals,” according to Hignnett et al.¹

We have learned that work-related musculoskeletal disorders (WMSDs) cause a substantial amount of lost work time, decreased productivity, reduced job satisfaction, bodily injury to workers, and many other undesirable outcomes.²⁻⁶ Gaining valuable quantitative and qualitative information through participatory ergonomics can assist your hospital in creating change.¹

GOALS OF PARTICIPATORY ERGONOMICS IN VETERINARY DENTISTRY

- Reduce risk factors associated with WMSDs
- Decrease injuries and lost time from work due to WMSDs
- Prevent decline of workers' abilities over time
- Increase productivity and efficiency
- Increase communication and understanding between all levels of the organization
- Empower individuals to create cost-effective solutions
- Increase job satisfaction
- Increase patient care and safety
- Provide ongoing evaluation and future planning

PROCESS OF PARTICIPATORY ERGONOMICS

1. Assess, identify, and analyze risks
2. Formulate recommendations: feasible, achievable, efficient



ABOVE AND BEYOND

All staff members should gather information, voice their opinions, make suggestions, and create solutions to cultivate “a new way of working” that serves our goals.^{1,7,8}

3. Create plan of action
4. Implement solutions
5. Periodically reevaluate
6. Document successes and failures

Successful participatory ergonomics programs have shown that changes to the organization, practices, and design of the working environment combine to result in significant improvements.^{1,4,7,8} All staff members should gather information, voice their opinions, make suggestions, and create solutions to cultivate “a new way of working” that serves our goals.^{1,7,8}

There are many levels of concern regarding ergonomics and dentistry; here are 3 that should be evaluated through participatory ergonomics.

● Operator posture during procedures

- Adjustable-height procedural tables: The table and the patient must be adjusted to the operator to ensure a comfortable and seated posture that maintains the normal curve of the operator's spine. Furthermore, patient comfort and retention of body heat are imperative.⁶
- Seating: Proper seating should support a neutral spinal posture and avoid nerve compression in the operator's legs.⁶
- Lighting and magnification: Head-mounted lighting and magnification are critical to prevent awkward postures and support a neutral spine, thus reducing eye, neck, and shoulder strain.⁶

● Equipment and instrumentation

- Power equipment: Equipment location, height, and handpieces all play a role. Swivels, integrated lighting, a comfortable grip, handle diameter, and straight air and water lines can make a difference on high- and low-speed handpieces.²
- Hand instrumentation: Handle diameter, weight, grip, and color coding can increase user comfort and efficiency.²

● Organizational and scheduling ergonomics

- Stress and repetition are risk factors for WMSD.^{4,6} Proper scheduling of patients and operators requires a responsive and receptive leadership team that uses participatory ergonomics to ensure the staffing is appropriate to support a physically and emotionally safe workplace.¹

ORGANIZATIONAL AND SCHEDULING ERGONOMICS

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Participatory ergonomics in veterinary dentistry can create a safe, satisfying, and collaborative workplace for everyone involved. This should be our ongoing goal because those that benefit truly matter to the success of our profession: the staff, the patients, and the clients we serve. **TVN**

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