

Getting Started With HRVB for Trauma-Exposed Law Enforcement: A Research–Practitioner Dialogue

Sergeant Lissa Ruocco, Toronto Police Service, brings over 27 years of policing experience and is an internationally recognized tactical operator, trainer, and hostage negotiator. She has collaborated over the past 12 years as a community partner on research with **Dr. Judith Andersen**, a health psychologist, Associate Professor in the Department of Psychology, and Director of the Health Adaptation and Research in Trauma (HART) Lab at the University of Toronto Mississauga. Judith leads a multidisciplinary team examining the impact of occupational stressors on physical health, mental wellness, resilience, and performance. This active learning breakout session is focused on conducting HRV biofeedback research with first responders, tactical officers, and police personnel.

For more info contact: lissa.Ruocco@torontopolice.on.ca or judith.andersen@utoronto.ca

To review the research on physiological evidence of occupational stress in police see:
<https://www.hartlab.net/publications>

HRVB + Metacognitive skills Interventions: Autonomic Modulation Training Protocol and iPREP

Existing occupational wellness programs often miss physiological component, HRVB addresses the needs (Andersen et al., 2021; 2023). We provide four novel contributions to applied psychophysiology in policing contexts:

- 1) **Reset Refocus Respond** a brief HRVB intervention to modulate **acute** stress without requiring significant cognitive resources (Figure 3). Based on prolonged exhalation
- 2) **Recovery breathing**: As shown in Figure 4, paced breathing that promotes physiological recovery from both acute and chronic stressors. Developed in clinical practice (Arpaia 2000-2024) and matched to Lehrer et al.'s (2013) clinically validated 'resonance frequency' protocol. Emphasizes **comfort** and **pace**, a combo that **boosts adherence**
- 3) **HRV Train –HRVB for online accessibility**: provides a) **immediate visualization** of beat-to-beat intervals with no time delay, b) **secure local storage** of physiological data files with no third-party or cloud-based file sharing to protect participant, client, and officer data, and c) a polished format that is accepted by police (i.e., no 'yogic' or 'relaxation' imagery).
- 4) **HRVBF + reality-based scenarios and Vignettes**: conditions the reset breath and recovery breathing techniques during reality-based scenarios or case examples designed by police experts with researchers to be **representative** of occupational duties

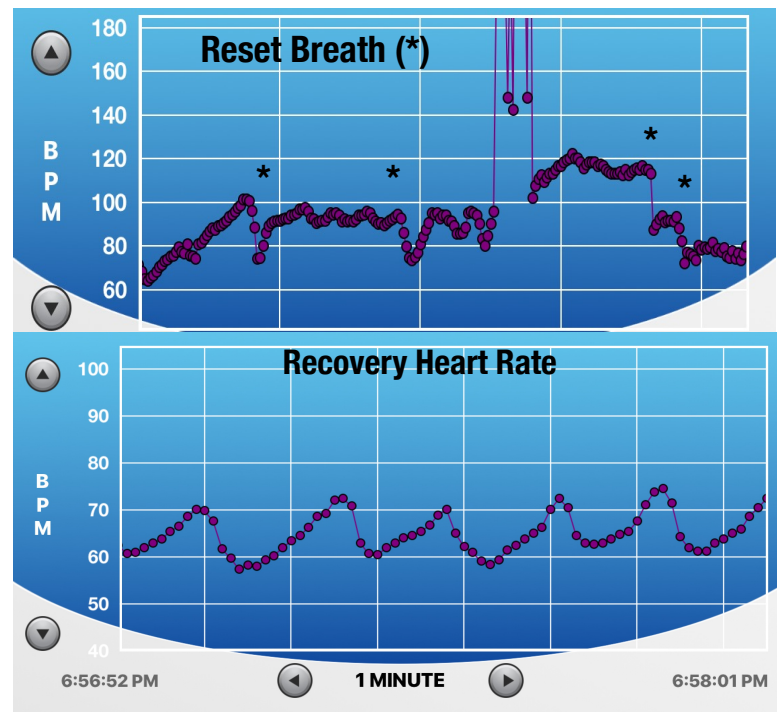


Figure 4. Data image from HRV Train. Copyright JP Andersen (2018)

1. Initiating Contact and Building Collaborations with Police Agencies

Q: How do you initiate contact with police services or identify entry points?

Use existing networks, training programs, or prior operational contacts; Engage through professional associations, conferences, or invited talks; Identify internal champions with credibility in the organization.

Q: What facilitates initial trust and access?

Demonstrate operational relevance (use relevant case and data examples); understand and respect that there is a policing culture; Use a community-partnered research model rather than a top-down approach; Establish transparency regarding goals, data use, and outcomes.

Q: What are common early barriers?

Institutional gatekeeping and liability concerns; competing operational priorities (resources like time/money); Skepticism toward external researchers, academics, clinicians. Study recruitment may take extra time until stigma is reduced and trust is built. Consider selection bias (only motivated officers may sign up for a research study).

2. Applying HRV Biofeedback with Cognitive-Behavioral Skills Training**Q: Applying HRVB interventions (with and without cognitive-behavioral approaches)**

Embed training within performance and health frameworks not pathology/psychology language to improve buy in. Integrate basic physiology with applied, job related exercises or skills. When teaching CBT type exercises, you may consider using vignettes or media examples (testimonials) created by police officers in order to improve relevance. see iPREP/AMT interventions; Techniques must be brief, repeatable, min equipment, non-invasive, compatible with shift work or training.

Q: What are key considerations for active-duty personnel?

Symptom variability, repeated traumatic exposure; organizational stress, avoid additional research or technical burden

Q: How is adherence supported?

Incorporate skills into routine training cycles. Address perceived lack of immediate benefit - provide some immediate performance or health-relevant feedback. Provide peer support and leadership endorsement.

3. Navigating Operational Constraints and Cultural Resistance**Q: What operational constraints affect implementation?**

Irregular schedules, shift work, and limited availability. Training time constraints and competing mandates. Confidentiality concerns.

Q: How does police culture influence uptake?

Emphasis on hierarchy, control, and performance. Stigma related to mental health symptoms. Preference for practical, skills-based interventions.

Q: What strategies reduce resistance?

Frame interventions as performance enhancement. There is a need for
 Use language consistent with operational priorities.
 Engage respected internal personnel as co-facilitators.

4. Organizational Stress and Structural Considerations**Q: How does hierarchy impact intervention delivery?**

Decision-making is centralized and protocol-driven; Leadership endorsement is critical for participation – must have a champion at each level of hierarchy that is available for questions and info; perceived lack of confidentiality (peers may also be a barrier if there is lack of buy in).

Q: How can interventions align with organizational structure?

Integrate within existing training frameworks; adapt protocols to rank-specific roles and demands; Maintain clear boundaries between clinical and evaluative functions.



Training (AMT) intervention (for protocol, see Andersen et al., 2023). Based on the principles and physiological mechanisms of iPREP, AMT aimed to reduce symptoms of post-traumatic stress injury, improve functional wellness capacity and resilience, and assess sex and gender differences in police psychophysiology

Materials that are included in this course may include interventions and modalities that are beyond the authorized practice of mental health professionals. As a licensed professional, you are responsible for reviewing the scope of practice, including activities that are defined in law as beyond the boundaries of practice in accordance with and in compliance with your profession's standards.