

Teri L. Martin

Laboratory Services Section, Centre of Forensic Sciences
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Manager, Laboratory Services Section

December 2020-Present

Centre of Forensic Sciences, Toronto, Ontario

- Technical, operations manager of forensic laboratory providing toxicology analyses and rapidDNA screening for medico-legal investigations
- Responsible for prioritizing urgent cases, oversight of lab analyses and directing staff to ensure completion of cases according to deadlines; work collaboratively to develop strategic and operational plans as part of the management team; ensure our objectives align with overarching CFS Strategic plan; monitor laboratory performance and recommend process improvements, identify and mitigate risk

Section Head, Physical Sciences Section (Acting)

December 2019 – March 2020

Centre of Forensic Sciences, Toronto, Ontario

- Provide strategic oversight and leadership and guidance to managerial, scientific, and technical staff in the specialized area of firearms, toolmarks and questioned documents analysis
- Recruitment, succession planning and labour relations management

Assistant Section Head, Toxicology

March 2014 – December 2019

Centre of Forensic Sciences, Toronto, Ontario

- Coordinate laboratory operations and manage physical and human resources to ensure efficient workflow and quality analysis in support of criminal and non-criminal investigations
- Breath alcohol testing program coordinator for Ontario
- Human resources manager for scientific, technical and administrative professional groups
- Perform technical review of case reports and monitoring of expert testimony by scientific staff

Forensic Toxicologist

September 1999 – March 2014

Centre of Forensic Sciences, Toronto, Ontario

- Case management, laboratory analysis and reporting in forensic investigations; interpretation and communication of analytical findings; provision of expert witness testimony; research, lecturing; teaching

Forensic Toxicologist (Visiting Scientist)

May 2004 – September 2004

Institute of Environmental Science and Research Ltd., Wellington, NZ

- Performed the regular responsibilities of a forensic toxicologist while consulting on alternative approaches, procedures and methods, and best practices in forensic toxicology. Seconded role included a significant quality assurance component including technical and administrative review of casework and performing audits and inspection of the breath alcohol laboratory

ACADEMIC QUALIFICATIONS

Master of Science

1998

Environmental Biology

University of Guelph, Guelph, Ontario

Bachelor of Science (Honours)

1996

Environmental Science (Biology)
Queen's University, Kingston, Ontario

Additional Courses

Principles of Project Management March 2018
Humber College, Toronto, Ontario

Systems Pharmacology, Pharmacodynamic Principles, Pharmacokinetic Principles 1999-2001
University of Toronto, Toronto, Ontario

RELEVANT AREAS of EXPERIENCE

Qualified as an expert witness and provided *viva voce* evidence in all levels of court in the Province of Ontario, in Coroner's inquests and Alcohol and Gaming Commission hearings with respect to the detection and quantitation, pharmacology, toxicology and behavioural effects of alcohol drugs and toxins

Written, reviewed, and/or consulted on 10,000+ cases concerning the effects of alcohol, drugs and poisons in relation to concentrations achieved in biological samples with specific consideration to the forensic aspects of analytical testing, pharmacokinetics, and pharmacodynamics

Theory and methods of operation of breath-testing equipment including the Breathalyzer 900/900A, Intoxilyzer 5000C, Intoxilyzer 8000C and approved screening devices (Alcotest 7410GLC, Alco-Sensor FST, Dräger Alcotest 6810, Dräger Alcotest 6820). Manufacturer training in the theory and operation of breath testing equipment including Dräger Alcotest 6820 and 6810, Alco-Sensor FST, Intoxilyzer® 8000C, Intoxilyzer® 5000C

Analytical techniques for the isolation, detection and quantification of drugs, alcohol, and poisons from biological samples. Principles and methods of operation of analytical instrumentation including gas chromatography (GC), gas chromatography/mass spectrometry (GC/MS), high performance liquid chromatography mass spectrometry (LC-MS/MS, LC-QTOF) and immunoassay

Absorption, distribution and elimination of drugs, including alcohol, in the human body; including the calculation of blood alcohol concentrations. Pharmacological and toxicological effects of alcohol, drugs and poisons on the central nervous system.

PROFESSIONAL ACTIVITIES

- Faculty member, Indiana University Robert F. Borkenstein Course on Alcohol and Highway Safety: Testing, Research and Litigation providing instruction on breath alcohol instrumentation and the effects of alcohol on impairment related to driving (December 2012-present).
- Member of the Alcohol Test Committee (ATC) of the Canadian Society of Forensic Science (2007 – 2018): Chair (2011 – 2014), Vice-Chair (2008 – 2010), Member of the Maintenance and Modifications Sub-Committee (2007-2011; 2014-2016). Chair of the Standards and Recommendations Sub-Committee (2016-present)

- Acting Director of Breath Program for Ontario (current). Member of Breath Alcohol Committee of the CFS responsible for curriculum development and administration of the breath alcohol program in Ontario (2008 – present). Coordinator of Physical Resources (2008-2009). Coordinator of Human Resources and Training (2011-2018).
- Toronto Overdose Early Warning & Alert Partnership committee member (2017-2018) and Toronto Public Health - Research Group on Drug Use working group member (2017-2019)
- OACP Breath Alcohol and DRE Sub-Committee member (Jan 2011 – Present)
- Panelist and mentor in the Expert Witness Workshop. Chair and moderator of the “New” Approved Breath Analysis Instruments in Canada workshop at the 57th Annual Conference of the Canadian Society of Forensic Science. Toronto, ON. November 29-December 2, 2010
- Assisted organizers with the Expert Witnessing Workshop and provided mentoring to attendees of the session at the Joint meeting of the Canadian Society of Forensic Science, Canadian Identification Society and the Province of Nova Scotia Medical Examiner’s Office. Halifax, Nova Scotia. September 15-18, 2008
- Peer-reviewer of manuscripts under consideration for publication in the following journals: Canadian Society of Forensic Science Journal, Journal of Analytical Toxicology, Pharmacoepidemiology and Drug Safety, American Journal of Preventative Medicine
- Member of CFS Analytical Process Review and Re-engineering Committee established to perform an analysis of best practices for the laboratory within the necessary accreditation framework (April 2005 – July 2007).

TEACHING EXPERIENCE

- Extensive experience as lecturer and instructor in the theory and operation of the Breathalyzer 900/900A, Intoxilyzer 5000C/8000C, Alcotest 7410 GLC, Drager Alcotest 6810, Alco-Sensor FST to police officers in the provinces of Ontario and Québec.
- Lecturer in the pharmacology and toxicology of alcohol, drugs, and poisons to sexual assault nurse examiners, and police officers attending sexual assault and drug investigator training courses.
- Developed curriculum and acted as sessional lecturer at the University of Toronto (Mississauga) for course FSC402H – “Topics in Forensic Science 2: Forensic Toxicology” – Winter Term (2003) and Fall Term (2003).
- Lecturer to University of Toronto undergraduate students (i) Alcohol Pharmacology and Psychomotor Impairment (Course FSC239Y “Introductory Forensic Science”) (ii) Perspectives in Forensic Toxicology (Course PHM3H “Applications of pharmaceutical analysis”).
- Lecturer on the forensic aspects of alcohol and the effects of alcohol on driving at Crown Attorney Summer School (July 2002, July 2005, July 2010) to legal counsel for the Alcohol and Gaming Commission of Ontario (February 2004) and to police officers (on-going).
- Mentor and supervisor to students of the University of Toronto undergraduate and Strathclyde University graduate programs completing research projects in the field of forensic toxicology. Training and mentoring of junior forensic toxicologists at the Centre of Forensic Sciences.

Professional Affiliations:

Canadian Society of Forensic Science	(1999-Present), Fellow (2012-Present)
Society of Forensic Toxicologists	(1999-2018)

PUBLICATIONS

Peer-Reviewed Publications in Forensic Toxicology

Hackett, M.A., Gorczynski L.Y., and T.L. **Martin**. 2017. The effect of non-alcoholic food and beverage consumption on preliminary breath alcohol testing by the Drager Alcotest 6810 and Alco-Sensor FST. *Can. Soc. Forensic Sci J.* Vol. 50. No 3. Pp. 131-145.

Martin, TL *et al.* 2013. A review of alcohol-impaired driving: the role of blood alcohol concentration and complexity of the driving task. *Journal of Forensic Sciences.* 58: 1238-1250

Martin, TL. 2011. An Evaluation of the Intoxilyzer® 8000C Evidential Breath Alcohol Analyzer. *Canadian Society of Forensic Science Journal.* *Can. Soc. Forensic Sci. J.* Vol. 44. No. 1 (2011) pp. 22–30.

Woodall, KL, **Martin** TL and McLellan, BA. Oral Abuse of Fentanyl Patches (Duragesic®): Seven Case Reports. 2007. *Journal of Forensic Sciences.* 53(1): 222-225.

Martin, TL, Chiasson, DA and Kish, SJ. 2007. Does Hyperthyroidism Increase Risk Of Death Due To The Ingestion Of Ecstasy? *Journal of Forensic Sciences.* 52(4):951-953.

Martin, TL, Woodall, KL and McLellan, BA 2006. Fentanyl-related deaths in Ontario, Canada: toxicological findings and circumstances of death in 112 cases (2002-2004). *Journal of Analytical Toxicology.* 30: 603-610.

Martin, TL, Wigmore, JG and Woodall, KL 2004. A Comparison of Blood Alcohol Concentrations Estimated From Drinking Histories of Drivers Charged with “Over 80” and Their Intoxilyzer® 5000C Results. *Canadian Society of Forensic Sciences Journal.* 37(4): 187-195.

Buczek, Y. and **Martin**, TL 2002. Carboxyhemoglobin (COHb) saturations in sudden unexpected deaths of children under two years of age in Ontario. *Canadian Society of Forensic Sciences Journal.* 35(2): 91-95.

Martin, TL. 2001. Three cases of fatal paramethoxyamphetamine overdose. *Journal of Analytical Toxicology.* 24(7): 649-651.

Minor Publications in Forensic Toxicology

Martin, TL. 2011. Transdermal fentanyl delivery may be accelerated by application of heat: case report and review of the literature. *ToxiLogic.* Vol. 34(1): p. 2.

Martin, TL. 2007. An introduction to the Intoxilyzer® 8000C. *ToxiLogic.* Vol. 32(1): p. 12.

Martin, TL. 2005. Evaluation of the Intoxilyzer® 8000C. A report for the Alcohol Test Committee of the Canadian Society of Forensic Sciences. 29 pp.

Martin, TL. 2004. “Club Drugs”: From Rave Scene to Mainstream. *In: For the Defence.* Newsletter of the Criminal Lawyer’s Association. 25(1): 32-34.

Martin, TL. 2003. Evaluation of the Intoxilyzer® 8000. A report for the Alcohol Test Committee of the Canadian Society of Forensic Sciences. 25 pp.

Martin, TL. 2002. The Agony of “Ecstasy”. *In: The Mortem Post.* Newsletter of the Office of the Chief Coroner. 39th Ed. pp. 9-10.

Presentations

Martin T.L. 2018. Case Report: Fatal hydromorphone overdose in a child. Presented at the 70th Annual scientific meeting of the American Academy of Forensic Sciences. Seattle, Washington. Feb 19-24, 2018.

Martin T.L. 2017. Novel Psychoactive Substances in Ontario. Presented at the 21st Triennial Meeting of the International Association of Forensic Sciences (IAFS). Toronto, ON. Aug 21-25, 2017.

Hinman, J. and T.L. **Martin**. 2010. A case report of radio frequency interference (RFI) during an evidential breath test on the Intoxilyzer® 5000C. Presented at the 57th Annual Meeting of the Canadian Society of Forensic Science. November 29-December 1, 2010. Toronto, ON.

Woodall, K.L., **Martin**, T.L. and B.A. McLellan. 2006. Post-mortem blood concentrations following the oral ingestion of transdermal fentanyl patches (Duragesic®). Presented at the 58th Annual Meeting of the American Academy of Forensic Sciences. February 20-24, 2006. Seattle, Washington, USA.

Martin, T.L. and B.L.C. Chow. 2004. Methylenedioxymethamphetamine (MDMA)-Related Deaths in Ontario, Canada (1999-2004). Presented at the 57th Annual Meeting of the American Academy of Forensic Sciences. February 21-26, 2005. New Orleans, Louisiana, USA.

Martin, T.L. and B.L.C. Chow. 2003. Rave-Drug Deaths: The Ontario Experience. August 27, 2003. Presented at the CFS Rave Drugs Forensic Education Conference, Toronto, ON.

Martin, T.L. 2003. Beyond Rohypnol®: club drugs and sexual assault". An invited presentation for the Halton Regional Sexual/Domestic Violence Care Centre. May 22, 2003. Burlington, ON, Canada.

Martin, T.L. 2003. The behavioural and toxicological aspects of "club drugs". Presented to the Golden Horseshoe Forensic Identification Meeting, May 15, 2003. Aylmer, ON, Canada; and at the CFS Forensic Education Conference. January 16, 2003. Toronto, ON, Canada.

Martin, T. L. and Lalonde, B.R. 2002. Isopropanol: A putrefactive product in deaths due to drowning. Presented at the 33rd Annual Meeting of The Society of Forensic Toxicologists. October 13-17, 2002. Dearborn, Michigan, USA.

Buczek, Y. and **Martin**, T. L. 2001. Carboxyhemoglobin saturations in sudden unexpected deaths of children under two years of age in Ontario. A poster presented at the 48th Annual Meeting of The Canadian Society of Forensic Science. November 6-10, 2001. Toronto, ON, Canada.

Martin, T.L. Forensic Toxicology: An Overview. Presented at the Toronto Police Service – Forensic Identification Services 15th Annual Forensic Identification Seminar. March 19-23, 2001. Toronto, ON, Canada.

Martin, T.L. Chow, B.L.C. and Lalonde, B.R. 2001. Peace, love, dancing and drugs: An examination of the drugs typically associated with rave parties. CFS Forensic Education Conference. January 25, 2001. Toronto, ON, Canada.