Anaesthetics have been administered at the Hospital for Sick Children (HSC) since its founding in 1875. In 1935, Dr. Van Vleet Snell became a permanent staff member, following three months’ training in anaesthesia at the Toronto General Hospital, and one year’s training in Internal Medicine at the London Hospital. As this was in the depths of the Depression, Snell continued his Internal Medicine practice combined with Anaesthesia.

During the period before World War II, anaesthetic techniques remained relatively unchanged. Most anaesthetics were given by open-drop method, using ethylchloride for induction, and open-drop ether as maintenance with air or oxygen. Tonsillectomies comprised a large proportion of all anaesthetics, administered by Junkers bottles and ether/air insufflation. N₂O/O₂ or Ethylene/O₂ were provided by the few ancient anaesthetic machines (even a Clover inhaler was available!). Following
World War II, there was a tremendous acceleration in the development of the whole field of anaesthesia. Charles Robson was Chief and his staff was enlarged by better-trained and more experienced full-time anaesthetists. The first of these was Norman S. Park. After serving as an anaesthetist in the RCAF at East Grinstead, he received a further year’s training in Toronto and joined the Staff in 1947, but continued general practice until 1956. Wesley Dix (1949), Dr. A.O.C (Code) Smith (1950), and Margaret Sheehan (1950) were appointed after completing the U of T two-year training program. In 1949, the first monthly Staff meeting was held; by 1950, regular clinical meetings were instituted and occasional guest speakers were invited.

Beginning in July, 1950, only Members of the Department of Anaesthesia could administer anaesthetics at HSC. The Hospital Board also agreed to subsidize departmental members to provide an adequate income and recruit well-qualified anaesthetists. This subsidy was continued for almost ten years. During this time, cyclopropane was introduced, and ether/oxygen replaced ether/air anaesthesia. The first Heidbrink anaesthetic machines were acquired. Laryngoscope use became more frequent and intubation became a commonly used technique.

Until the end of World War II, training in pediatric anaesthesia for surgical and pediatric interns was limited to operating room supervision. In 1946, with the introduction of the University’s two-year training program, two full-time anaesthetic interns were appointed. In addition to their practical experience, they attended the lecture course given by members of staff. Supervision and training in the operating rooms improved.
Research during this period was extremely limited and confined to clinical observations. The second Chief of Anaesthesia (1951–1960) was Charles Ivan Junkin. He graduated in 1924 from the U of T and joined the HSC anaesthetic staff in 1927. He combined a small general practice with anaesthesia for both adults and children until 1945 when he limited himself to pediatric anaesthesia. He was appointed Chief immediately prior to the Hospital’s move from College Street to University Avenue. Junkin’s clinical duties were onerous and teaching was mainly practical and confined to the Operating Room. He published a total of 5 papers during his career. He remained in practice for only one year after completing his term as Chief before his untimely death in 1961.

The move to University Avenue provided greatly expanded surgical facilities (14 operating rooms) and the volume of cases rose steadily. The Staff was increased by the addition of J.S. Whalen (1951), A.W. Conn (1953) and George Clark (1957). The Hospital’s financial subsidy enabled the Department to attract and hold staff as full-time anaesthetists. The operating rooms were better equipped and routinely serviced from a central anaesthetic store-room under the direction of Mrs. V. Brady, RN. Anaesthetic machines (Air-Med) were provided in all anaesthetic areas and, later, Bird respirators were fitted to each machine, facilitating the management of patients during prolonged surgery and providing experience in managing post-operative respiratory problems. This led to the development and direction of an Inhalation Therapy...
Department. Induction rooms were provided for the neurosurgical and cardiovascular suites, as well as the tonsillectomy rooms. A 10-bed Recovery Room was opened for post-operative care with full-time nurses under anaesthetic supervision. Cardiovascular monitoring was instituted using 4-channel recorders and transducers. Blood gas analysis became routine. The first full-time Cardiovascular Anaesthetic Fellow was appointed in 1957. A number of new drugs were introduced into wide clinical use during this period, including d-tubocurare and later succinylcholine. Of particular importance in 1956 was the introduction of halothane, which revolutionised pediatric anaesthetic practice. Research was subject to priorities of the Operating Room and therefore limited to clinical material and such equipment and time as could be spared or easily obtained. Nevertheless, the presentation of papers became more common and the total publications by the staff reached 15 per year.

The third Chief of Anaesthesia, Alan W. Conn (1960–1971) was also cross-appointed in 1968 to the Department of Pharmacology. He authored or co-authored 86 papers and lectured widely in many countries during this period. He made major contributions to management of children with hypothermia and freshwater drowning.

With the opening of the Gerrard Street Wing in 1964, the number of anaesthetizing locations increased to 26. In 1961, Dr. Conn re-organized the Department and established that a Fellowship in Anaesthesia was essential for all future staff appointments. An accelerated recruitment of capable, highly qualified individuals followed. The Cardiovascular Surgical Division increased its volume and scope. Five anaesthetists, Sloan, Pelton,
Johnston, Nabeta and Blackwood — became primarily responsible for cardiovascular anaesthesia, and were greatly helped by the appointment of a cardiovascular fellow. Simultaneously, other members of the staff became primarily responsible for surgical divisions, such as Drs. Creighton and Relton in the neurosurgical division, and Drs. Whalen and Park in the plastic surgery division. This policy led to an improved understanding and advances in anaesthetic management. A particularly lethal anaesthetic hazard, malignant hyperthermia, was reported in 1960. In the following years, several HSC cases were diagnosed and treated, all but one successfully. Education and study led to a policy of monitoring body temperatures in all cases.

In 1971, Dr. Conn became the first Director of the Pediatric Intensive Care Unit. The R.S. McLaughlin Intensive Care Unit was opened in 1968. Anaesthetic consultation, support and continuous coverage were provided by the Department with Drs. Markham, Kester Brown, Owen-Thomas, R.E. Creighton, M.J.A. Blackwood and D.J. Steward playing a major role. The first Inhalation Therapy training school in Ontario was established and operated by A.W. Conn and D.A. Pelton. A much larger office developed under Office Manager, Miss S.M. Peart. This office suite included a library and departmental slide collection, which was developed by Dr. M. Sheehan and Mrs. W. Schuette. A policy of allowing the staff on night call to be off-duty the following day was introduced in 1967. This prevented undue fatigue and possible hazard to patients.
Academic Training

The R.S. McLaughlin Foundation played an important role in supporting overseas anaesthetic training for a number of the staff. Fellows included A.W. Conn, R.E. Creighton, D.A. Pelton, W. Markham and Ian Nisbett. Weekly teaching rounds during working hours were introduced in 1965 to supplement the regular weekly staff and resident clinical meetings. In November, 1964, the first weekend Pediatric Anaesthetic Conference was held, attracting an large audience from all over North America. The Pediatric Anaesthesia Conferences, founded by Dr. Conn, have been held since 1971, alternating annually with the intensive care program, and attracting 250 or more physicians each year.

In 1964, the first Anaesthetic Research Fellow was appointed. In 1968, Mr. G. Volgyesi (electronics technician), and Jennifer Taylor (biochemical technician) joined the Department, and subsequently moved into Anaesthetic Research.

The fourth Chief of Anaesthesia (1971–1985) was David J. Steward, who continued the development of the research program. In 1971, clinical work reflected a trend toward increased correction of complex congenital lesions and a decrease in routine pediatric cases, although many routine cases were still being done on an outpatient basis (about 25% in 1973.) The teaching program became widely respected and attracted residents from numerous centres in North America. One of Dr. Steward’s outstanding accomplishments was the creation, with the members of the staff, of The Manual of Pediatric Anaesthesia (1979), which described the techniques and methods of anaesthesia currently in practice at HSC. The second edition was published in 1985 after Dr. Steward had left for the Children’s Hospital of Vancouver, the third in
1990 and the fourth in 1995 after he had moved to Los Angeles. In the fifth edition, 2001, the process came full circle with Jerrold Lerman as co-author, again bringing the benefit of the vast experience of the Toronto Hospital for Sick Children. During Dr. Steward’s leadership, Dr. Herbert Chinyanga initiated the first Residents’ Research Day for all U of T residents. This has evolved into Shields Day, the major academic day of the year.

With Dr. Steward’s departure in the fall of 1985, J.E.S. Relton was the interim Chief until Dr. R.E. Creighton was appointed on January 1, 1986. The second half of the eighties was a time of great change at HSC. It was necessary to replace all the anaesthetic machines and provide each with the new monitoring devices. Under Mr. Jim Tibbals as chief of anaesthetic supply the Department moved into the new communication era. David Fear was recruited to establish a pain service at the Hospital, which he did with great success until his untimely death in 1997.

Research was also ready for a renaissance. In 1982 a Duncan
Gordon fellowship had been arranged for Jerrold Lerman working with George Gregory and Edmund Eger at the University of California San Francisco. He more than justified expectations and in 1986 he was appointed Director of anaesthetic research in the Department. In 1986 a Duncan Gordon fellowship was arranged for Bruno Bissonnette with George Gregory and John Severinghaus at the University of California, San Francisco. He returned to join the Department in 1987. During this period, the number of papers published continued to average eleven per year, but, more important, the staff members and fellows presented their research at international meetings. The numbers of posters and presentations increased rapidly.

In 1991 Dr. Creighton stepped down and was replaced as Chief by Jerrold Lerman. During the next five years the Department continued to grow and academic output continued. In 1997, Jerry Lerman completed his term as Chief and was succeeded by Dr. Lawrence Roy. In 2000 Dr. Lerman was appointed to the inaugural Siemens Chair of Pediatric Anaesthesia at the Hospital for Sick Children and the U of T.

In the 1990s, “satellite anaesthesia,” anaesthesia away from the operating room, grew considerably. Anaesthesia was demanded for burn dressings, endoscopy, oncology treatments, MRI and more time in the interventional radiology and cardiology suites. This put a stress on the department which was finally relieved in 2000 with the renegotiation of the Alternate Payment Plan.
HSC Community Service (1968-1985)

Beginning in 1967 members of the department provided community service in Baie Verte, Newfoundland, and Sioux Lookout, Ontario. By 1975, two or three times a year an HSC anaesthetist (mostly Drs Creighton, Johnston and Sloan) traveled to Central or South America with charity organizations to supply anaesthesia for the repair of cleft lips and palates. David Steward traveled several times to mainland China to teach and assist at surgery with an HSC cardiac surgical team. In 1982, Robert Creighton broadened the horizon to include Micronesia, then The Philippines (1993) and Vietnam (1994). These humanitarian endeavours have continued to the present time with a group of HSC nurses, anaesthetists and surgeons traveling to Vietnam in 2002.
University of Toronto Residents (1973–2003)

Editor’s note:
As we compiled material for the monograph, the most complete pictorial record of residents in the University-affiliated hospitals was found at the Hospital for Sick Children. The dates on the photographs relate to the time of their HSC experience during training. Almost all residents rotated through HSC and we thank the pediatric anesthesia group for their foresight in retaining this photographic record and Ms Shue Lin Loo for her help in providing the photos.
**Anaesthesia Residents**  
January to June 1973

Front row: M.S. Mather, I. Hollinger, B. Gates, A. Ciok, J.W. Bland (Chief Resident)  
Missing: C. Varty

**Anaesthesia Residents**  
January to June 1974

Back row: J.C. Abajian (Chief Resident), D.L. MacQuarrie, M.G. Sanchez, J. Tabbakh  
Front row: P. Hejja, I. Hollinger, E. Pyper, L. Hadley, K.W. Wong
Anaesthesia Residents and Fellows
July-December 1974

Back row: J. McLean, J.L. Lesniak, J.W. Kim, F.J. Watt, R Wright, M.A. Marshall (Fellow), H.M. Chinyanga, R. McKenzie, R. Harwood (Fellow), R.R. Smith, I.S. Won, G. Havasi, Front row: B.C.M. Olson, B.T. McKenna (Chief Resident), A.E.P. Jones (Fellow), L. Greiss (Fellow)

Anaesthesia Residents
January to June 1975

Middle row: I.S. Won, R.R. Smith (Chief Resident), H.R. Wexler, D.G.S.J. Jarvis
Front row: C. Colaco, D.R. Biehl, E. John
Anaesthesia Residents
July to December 1975

Front row: S. Swartzman, L. Gravlin, K. Kapur

Anaesthesia Residents
January to June 1976

Middle row: K.S. Whang, E. Dosch, K. Magnevik, S.M.Y. Oh
Front row: H.M. Chinyaga (Chief Resident), K.P. Kyriaou, W.A. Hutchison, S. Kondapaneni
Anaesthesia Residents
January to June 1977

Back row: R. Tilsworth, P. Healy, H. Ng
Middle row: W. Butler, A. Kong, B. Graham, S. Eeson, K. Ho, D. Bell
Front row: L. Chang, L. Crone, R. Byrick (Chief Resident), P. Fish, A.C. Scott

Anaesthesia Residents and Fellows
July to December 1977

Front row: P.M. McNama, J. Gow, G. Pirie, K. Tusiewicz (Chief Resident), Z. Kassam
Anaesthesia Residents
January to June 1978

Front row: P. Cruchley, A.N. Sandler (Chief Resident), B. Baxter, J. Bremang, G. Pirie, D. Frankel
Missing: D.J. McKnight

Anaesthesia Residents
July to December 1978

Back row: P. Lindsay, B. Marchak
Middle row: A. Johnson, S. Jelenich, D. Cubitt, M. Dufficy
Front row: A. Ananthanarayan, C. Soder, A. Grise, J. Tsang, P. Shum, M. Yamashita
Anaesthesia Residents
January to June 1979

Back row: K. Rose (Chief Resident), M. Yung, R. Underell, M. Malan, R. Reid, C. Higgins, J. Holmes, M. Smith (Fellow), A. Gelb
Front row: J. Robertson (Fellow), P. Morley, F. Chung, B. Morningstar, A. Aylmer, M. Flanagan, S. Bright

Anaesthesia Residents
July to December 1979

Back row: J. Fisher, A. Birek, Dr. J. Drummond, L. Roy (Chief Resident), H. Foster, S. Kristensen (Fellow), A. Pirlo
Front row: P. Williams, M. Kennedy, J. Mustard, S. Korman-Miller, P. Manninen, D. Campbell, N. Hilliard

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Back row: R. Young (Fellow), C. Bubela, J. Pullerits, E. Canada, J. Devitt, G. Makan, B. Dodgson (Chief Resident), J. Davidson
Front row: J. Glassford, M Gear, H. Kieraszewicz, J. Gaal, M.E. McLeod, S. Najarali, H. Wirjoseputro

Anaesthesia Residents
January to June 1980

Back row: G. Maxted, S. Tuohy, H. Patel, J. Parkin, V. Zulys, R. Kaplan
Front row: S. Hafez, S. Halpern, L. Huang, R. Cooper (Chief Resident), Fedkowicz, G. Morgan (Fellow)

Anaesthesia Residents
July to December 1980
Back row: K.O. Chan, G. Mullen, R. Grinberg, A. Leon
Front row: K. Thompson, R. Johns, P. Houston, J. Lerman, J. Cervantes
Inset: J. Cain (Chief Resident), F. Carmichael, J. Blachut

Anaesthesia Residents
January to July 1981

Front row: S. Kowalski, J. Goldberg, J. Mallon, M. Berkovitch, M. Wellwood
Inset: Dr. E. Huang

Anaesthesia Residents
July to December 1981
Anaesthesia Residents
January to July 1982

Back row: J. Lai, J.P. Koch, C. Allistor (Fellow), I. Orr (Fellow), B. Singleton, R. Seary, S. Anderson, W.N. Malcolm
Front row: S. Korman, Siriwatwejjakul (Fellow), S. Dunn, I. McLeod (Fellow), J. Bradley (Chief Resident), M. Tintscheff, H. Holtby, J. Kettles

Anaesthesia Residents
July to December 1982

Back row: P. Craen (Fellow), F. Ewert, I. Katz, R Parascandalo, K. Thomas, A. Finley
Front row: R. Deckardt (Fellow), Dr. R. Lipson (Chief Resident), N. Dunne, A. Gidwaney, L. Johnston, S.L. Kwan
Anaesthesia Residents
January to June 1983

Back row: P. Cisar, S Kasprzak, G. Nocent, R. McLean, D. Strum, P. Dion, J. Langston
Front row: C. Ricci, J. Brasher, M. Makowiecka, P. Morgan, H. Vosu (Chief Resident), V. Scott, G. Buczko

Anaesthesia Residents
July to December 1983

Back row: O. Butler, P. Chovaz, M. Feierabend, S. Haley, L. Urbankiewicz
Front row: D. Mazer, P Ang, A. Onayemi, B. Liberman, L. Lau

Anaesthesia Residents
January to June 1984

Anaesthesia Residents and Fellows
July to December 1984

Back row: J. Brassard, J. Klinck, P. James, J. Crandell, E. Hudes, E. Phala, P. Leung, J. Doyle
Front row: V. Chan, M. Ahluwalia, K. Brown, S. Bertman, S. Davies, C. Kline, M. Cunliffe, D. Kennedy
Absent: H. Holtby
Anaesthesia Residents and Fellows
January to June 1985

Back Row: D. Shumka, B. Macpherson, A. Tallmeister, S. Bodley
Middle Row: A. Finley, P. Westacott, H. Kashtan, E. Hartley-Black, S Abrahamson, W. Alyafi, R. Tanaka, B. McIntyre
Front Row: W. Tom, A. Mudie, V. Schulz, L. Fox
Inset: A. O’Callaghan

Anaesthesia Residents
July to December, 1985

Front row: B. Orser, G. Lim, Johnson, M. Ngan, S. Dain, S. Tam
Anaesthesia Residents and Fellows
January to June 1986


Anaesthesia Residents
July to December 1986

Front row: R. Cramb, M. Caid, K. Shine, W. Marley, L. Powell, A. Avila
Back row: A. Maykut, M. Levis (ICU), P. Lokoff, P. Murphy, Z. Wojtasik
Middle row: S. Christensen, N. Edwards, S. Nadeau, P. Connelly, D. Gugliotta, D. Daley
Front row: R. Valley, A. Ho, P. McCulloch, I. Devito, S. Belo, J. Derdemezi

Anaesthesia Residents and Fellows
July to December 1987

Back row: D. Wong, K. Turner, P. Livingston, L. Gerus, L. Sinclair, J. Hall, S. Willms
Front row: A. Meschino, J. Kay, L. Werboski, G. Bruin, M. Greschner, P. Slavchenko, H. Wong
Anaesthesia Residents
January to June 1988

Front row: T. Lindblad, L. Bartosik, L. Fonseca, L. Leitch, P. Laflamme, B. Dyck

Anaesthesia Residents and Fellows
July to December 1988

Back row: L. Gluckstein, V. Lazzell, DS. Hillier, M. Crawford, C. Eidlitz, J. Karski,
          A. Baker (Chief Resident), S. Villanyi
Front row: L. Beauregards, M. Tai-Pow, C. Barrese, S. Kemp, C. Punnen
Back row: M. Friedlander, D. Stringer, G. O’Leary, J. Hall (Chief Resident), A. Gauthier
Front row: J. Rosenblum, B. Wong, S. Mandell, I. Bloom, S. Brereton

Anaesthesia Residents
January to June 1989

Back row: J. Leon, Z. Otruba, R. Kolesar
Front row: C. Reichert, T. Siddiqui, S. Brereton (Chief Resident), I. Chuang, W. Yung

Anaesthesia Residents
July to December, 1989
Research Nurse: (far right) Nancy Sikich
Inset: J. Hotz ( Resident)

Anaesthesia Residents
January to June 1990

Anaesthesia Residents and Fellows
July to December 1990

Back row: S. Yentis, G. Dobson (Chief Resident), K. Parker, L. Halpern
Front row: M. Hennessy, F. Campbell, M. Levine, N. Mercer, A. Morgan, S. Buckenham, M. Colmenares, C. McMillan
Anaesthesia Residents
January to June 1991

C. Hawling, L. Hutchinson, R. Sheinbaum, M. Absalom (Chief Resident), J. Carstoniu, L. Fukar, T. Smith, H. Ghate
Absent: J. Foster

Anaesthesia Residents
July to December 1991

R. Levene, S. Nebbia, J. Zivot, M. Levine, S. Levy, G. Kantor, B. Kavanagh
Absent: S. Brooker (Chief Resident)
Anaesthesia Residents
January to June 1992

Back row: Conway, N. Mercer, Dr. A. Hick, P. Goldberg, H. Braden
Front row: G. Robison, C. Button (Chief Resident), C. Knapp, N. Ek, S. Chaudhry

Anaesthesia Residents and Fellows
July to December 1992

Back row: R. Carpenter, T. Long, J. Kulchyk, B. Chan, B. Naser, M. Buss (Chief Resident), F. Sinclair
Front row: J. Heggie, M. Bertlik
Back row: J. Knackstedt, W. Godlewski, A. Macdonald, B. O’Hare, A. Mahoney, V. Un
Front row: L. Looi-Lyons, M. Cohen, M. Markakis
Absent: L. Ho-Tai (Chief Resident)

Anaesthesia Residents
July 1993

P. Saccomanno, M. Scott, R. Smyth, M. Graham, J. Heggie (Chief Resident), S. Côté
Front row: A. Tey, J. Huang (Chief Resident), K. Minhas, V. Sharma

Anaesthesia Residents
January 1994

Anaesthesia Residents
July to December 1994

I. Salter, L. Fedorko, J. Wasserman (Chief Resident), W. George, J. Loke, L. Harfa, R. Yeung
Anaesthesia Residents
January to June 1995

David Cohen, Claire Middleton, Karen McRae, Jitendra Athayde, Patrick Mark, Henderson Lee, Doris Tong, Cameron Guest (Chief Resident)
Absent: Lucy Southerland

Anaesthesia Residents
July to December 1995

J. Tarshis (Chief Resident), I. Grant, A. Rice, K. Chan, A. Newman
Anaesthesia Residents
January to June 1996

Back row: R. Chen, S. Lambert, H. Joo
Front row: M. Kataoka, D. Hong, K. Cybulski (Chief Resident)

Anaesthesia Residents
July to December 1996

Back row: G. Berg (FP, July-September), D. Bergstrom, M. Wong, J. Bellinaso
Front row: W. Middleton (Chief Resident), K. Tanner, M. Srebrnjak, R. Ling
Anaesthesia Residents and Fellows
January 6 to June 30, 1997

Front row: V. Hsu, S. Cheung (Fellow), S. Kapoor, S. Williams
Missing: M. Cheng (Chief Resident), M. Danelice

Anaesthesia Residents
July 1, 1997 to January 4, 1998

Back row: C. Drone, N. Baig, A. Liolli, P. Webber (July to September), D. Lam (Chief Resident)
Front row: S. Herman, M. Jariani, G. White
The Hospital for Sick Children

Back row: G. Roze (Chief Resident), S. Brown, L. Huang
Front row: R. Mohl, V. Hsu (January and March), S. McCluskey

Anaesthesia Residents
July 1 to December 31, 1998

Back row: B. Nishimura, H. Huang, M. Glube, J. Weisbrod
Front row: G. Cruickshanks (Chief Resident), J. Hayes, H. Chan
Back row: L. Karwa, J. Tan, J. Teresi, P. Ho
Front row: A. Meikle (January to March), M. Fuchs, P. Menikefs
Absent: I. Bahrey (Chief Resident)

Back row: H. Bettger (Chief Resident), F. Reinders, J. Petrasek, E. Goldszmidt
Front row: S. Wong, G. Sakotic, E. Ng
Back row: A. Lee, C. Loffelmann (Chief Resident), R. Chun, A. Chan  
Front row: M. Chochinov, K. Dattilo, A. Griffin

Anaesthesia Residents  
January 10 to June 30, 2000

H. Fischer, R. Gronas, J. Don (Chief Resident), S. Butt

Anaesthesia Residents  
July 1 to December 31, 2000
Anaesthesia Residents
January to June 2001

Back row: G. Ragos, J. Robertson, T. Lim (Chief Resident)
Front row: M. Krestow, G. Ip, A. Griffin

Anaesthesia Residents
July 1, 2001 to December 31, 2001

M. Jeganathan, A. Perlas (July 1 to October 30, 2001), V. Naik (July 1 to September 30, 2001), A. Ho, C. Chiam
Absent: R. Zadik (Chief Resident)
Anaesthesia Residents
January 7 to June 30, 2002

Back row: J. Young, M. Cummings (January 7 to March 31, 2002), H. Ta
Front row: B. Safa, O. Tsai, T. Mark (Chief Resident)