

*“All technologists
working in the
diagnostic medical
ultrasound sector
must comply with the
professional standard in
ultrasonography.”*



Ordre des technologues
en imagerie médicale,
en radio-oncologie et en
électrophysiologie médicale
du Québec

PROFESSIONAL STANDARD IN
ULTRASONOGRAPHY

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Ordre des technologues en imagerie médicale, en radio-oncologie et en électrophysiologie médicale du Québec

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WHY A PROFESSIONAL STANDARD?

For some years now – more specifically, since 1982 – the *Ordre des technologues en imagerie médicale, en radio-oncologie et en électrophysiologie médicale du Québec* (the Order) has been concerned about the training needs of its members who practice ultrasonography. During that time, the Order has taken a number of steps to address the issue:

- ▶ submission of memoranda (1983 and 2010);
- ▶ meetings and discussions with Quebec's Office des professions (1983);
- ▶ establishment of a professional development program in ultrasonography (1984);
- ▶ recommendation to make ultrasonography a mandatory component of future members' basic training (1988);
- ▶ addition of ultrasonography to the annual professional practice inspection program (1989);
- ▶ creation of working groups (2002 and 2005), etc.

In 2008, in collaboration with the *Association des radiologistes du Québec* (ARQ), the Order established a pilot project focused on allocating new responsibilities to technologists working in diagnostic medical ultrasound.

The pilot project allowed us to observe technologists' ability to perform examinations autonomously. The project also demonstrated that these technologists met high selection criteria. It is essential to monitor this new method of practicing in order for this advanced professional practice to develop. Technologists who will be authorized to practice ultrasonography autonomously **must have the necessary training and skills** to properly meet this additional responsibility.

At the same time, the Order has developed a certification step that will **allow a technologist to perform an ultrasound exam autonomously and to discharge the patient without review by a specialist**.

Consequently, with the goal of protecting the public and continually improving quality, and in order to better manage the certification process, the *Ordre des technologues en imagerie médicale, en radio-oncologie et en électrophysiologie médicale du Québec* has adopted a **professional standard for diagnostic medical ultrasound** for technologists practicing in this sector.

This standard applies to all technologists practicing diagnostic medical ultrasound, no matter where in Quebec they practice, and to both the public and private sectors.



WHAT ARE THE COMPONENTS OF THE PROFESSIONAL STANDARD IN ULTRASONOGRAPHY?

The essential elements concerning the professional practice of diagnostic medical ultrasound in Quebec are set out in the following standard. The standard makes reference to sections 4, 5 and 11 of the *Code of ethics of medical imaging technologists, radiation oncology technologists of Quebec*.

Code of Ethics

Sections:

4. "A medical imaging technologist or radiation oncology technologist shall practice his profession in accordance with the professional standards generally recognized by all the members of the Ordre des technologues en imagerie médicale, en radio-oncologie et en électrophysiologie médicale du Québec and in accordance with the current state of knowledge in the science."
5. "In the practice of his profession, a medical imaging, radiation oncology or medical *electrophysiology technologist shall bear in mind the limits on his capabilities, his knowledge and the means at his disposal.*"
11. "A medical imaging, radiation oncology or medical *electrophysiology technologist shall avoid any false representation with respect to his level of competence or the efficacy of his services or those generally provided by the members of the Order or persons who carry on their professional activities within the same partnership or joint-stock company as him. If the good of a client so requires, he shall refer the client to another member of the Order, to a member of another professional order or another competent person.*"

All technologists practicing in the sector of diagnostic medical ultrasound are therefore required to abide by the Code of Ethics.

COMPONENT 1

→ Experience

- ▶ Have a minimum of 5 years of experience in ultrasonography within the last 10 years, equivalent to at least 26 weeks per year.

— OR —

→ Minimum number of examinations performed

- ▶ Depending on the specific certification, have performed at least:
 - 1,000 examinations – Vascular ultrasound certification*
 - 1,000 examinations – Cardiac ultrasound certification (adult)**
 - 2,500 examinations – Abdominal-pelvic and surface ultrasound certification***
 - 2,500 examinations – Obstetric ultrasound certification
 - 50 examinations – Nuchal translucency measurement certification****
 - 1,000 examinations – Breast ultrasound certification
 - 1,000 examinations – Musculoskeletal ultrasound certification

IMPORTANT

- * For the technologists in medical electrophysiology, the attestation for vascular ultrasound, only allows them to do exams in the supra-aortic region.
- ** *Pediatric (0-18 years) cardiac ultrasounds are excluded from the examinations relevant to cardiac ultrasound certification.*
- *** *Breast ultrasounds are excluded.*
- **** *The technologist must have obstetric ultrasound certification in order to obtain nuchal translucency measurement certification. The technologist must successfully complete the on-line course in 11 to 13*6 week ultrasonography from the Fetal Medicine Foundation (FMF)¹.*

1 - <http://www.fetalmedicine.com/fmf/online-education/01-11-136-week-scan/>



COMPONENTS

WHAT ARE THE COMPONENTS OF THE PROFESSIONAL STANDARD IN ULTRASONOGRAPHY? (cont.)

COMPONENT 2

→ **Confirmation letter from the employer attesting to the technologist's experience or the number of examinations performed by the technologist**

COMPONENT 3

→ **Maintaining ultrasound certification – OPD**

- ▶ A minimum of 5 hours of professional development per year related to the specific certification.

COMPONENT 4

→ **Maintaining ultrasound certification – Number of examinations to be performed annually**

- ▶ Depending on the specific certification, have performed at least:
 - 300 vascular ultrasound examinations
 - 300 cardiac ultrasound examinations (adult)
 - 300 abdominal-pelvic and surface ultrasound examinations
 - 300 obstetric ultrasound examinations
 - 50 nuchal translucency measurement examinations
 - 300 breast ultrasound examinations
 - 300 musculoskeletal ultrasound examinations

Note

Technologists who hold two certifications (e.g., obstetric ultrasound certification and nuchal translucency measurement certification) must perform the number of examinations required to maintain certification for each of the certifications concerned.

Important

Beginning September 1, 2012, this Professional Standard in Ultrasonography will replace the joint notice issued October 1, 2010 by the *Collège des médecins du Québec* and the *Ordre des technologues en imagerie médicale, en radio-oncologie et en électrophysiologie médicale du Québec*.



Practice of ultrasonography for technologists who do not fulfill the standard's components

Technologists who fall within this category may perform ultrasound examinations, but may not discharge patients without a review by a specialist or a certified technologist.



APPLICATION OF
THE COMPONENTSAPPLICATION OF THE COMPONENTS OF THE
PROFESSIONAL STANDARD
IN ULTRASONOGRAPHY

Each component of this professional standard is explained in further detail below:

COMPONENT 1

→ Experience

- ▶ Have a minimum of 5 years of experience in ultrasonography within the last 10 years, equivalent to at least 26 weeks per year.

— OR —

→ Minimum number of examinations performed

- ▶ Depending on the specific certification, have performed at least:
 - 1,000 examinations – Vascular ultrasound certification
 - 1,000 examinations – Cardiac ultrasound certification (adult)
 - 2,500 examinations – Abdominal-pelvic and surface ultrasound certification
 - 2,500 examinations – Obstetric ultrasound certification
 - 50 examinations – Nuchal translucency measurement certification
 - 1,000 examinations – Breast ultrasound certification
 - 1,000 examinations – Musculoskeletal ultrasound certification

In order to comply with the standard, the technologist must meet one of the requirements of this component.

A technologist with 5 years of experience in ultrasonography, who has not worked the equivalent of 26 weeks per year, cannot fulfill the component requirements through experience. They should instead keep track of the number of examinations they perform.

The minimum number of examinations performed must be representative of all types of

examinations that can be performed under the specific certification. For example, if among the 2,500 ultrasound examinations performed to obtain abdominal-pelvic and surface ultrasound certification, none or very few were performed on the thyroid by the technologist, he must bear in mind the limits on his capabilities and must not discharge the patient undergoing the thyroid ultrasound examination without a review by a specialist or a certified technologist.*

TYPES OF EXAMINATIONS THAT
MAY BE PERFORMED BY SPECIFIC
CERTIFICATION

→ Vascular ultrasound certification

- ▶ Arterial and venous Doppler, such as:
 - Cervicoencephalic Doppler;
 - Peripheral venous Doppler;
 - Peripheral arterial Doppler.

→ Cardiac ultrasound certification (adult)

- ▶ Transthoracic echocardiogram (adult).

→ Abdominal-pelvic and surface ultrasound certification

- ▶ Abdominal ultrasound;
- ▶ Pelvic ultrasound (transabdominal or endocavitary);
- ▶ Surface ultrasound, such as:
 - Testicles;
 - Thyroid.

→ Obstetric ultrasound certification

- ▶ 1st, 2nd or 3rd trimester ultrasound;
- ▶ Biophysical profile.

→ Nuchal translucency measurement certification**

- ▶ Ultrasound measuring nuchal translucency.

→ Breast ultrasound certification

→ Musculoskeletal ultrasound certification

* Ref.: Section 5 of the Code of ethics [...] a medical imaging technologist or radiation oncology technologist shall bear in mind the limits on his capabilities, his knowledge and the means at his disposal.

** Reminder: 1. The technologist must have an obstetric ultrasound certification in order to obtain a nuchal translucency measurement certification;
2- The technologist must successfully complete the «On-line course 11 to 13th week scan» from the Fetal Medicine Foundation (FMF).



APPLICATION OF
THE COMPONENTSAPPLICATION OF THE COMPONENTS OF THE
PROFESSIONAL STANDARD
IN ULTRASONOGRAPHY (Cont.)

COMPONENT 2

→ **Confirmation letter from the employer attesting to the technologist's experience or the number of examinations performed by the technologist.**

- ▶ The employer must provide written confirmation of the number of years the technologist has been practicing, as required in component 1.

— OR —

- ▶ The employer must provide written confirmation of the number of examinations performed by the technologist, as required in component 1.

If a technologist has worked in several institutions, his experience in ultrasonography must be confirmed by each employer. That is, each employer for whom the technologist has worked

in ultrasonography must corroborate the statement of experience, for the number of years required. The same is required for the number of examinations performed by the technologist.

COMPONENT 3

→ **Maintaining ultrasound certification – OPD**

- ▶ A minimum of 5 hours of professional development per year related to the specific certification.

Note

Each certification may be renewed annually by December 31. Component 3 and 4 requirements must therefore be fulfilled annually.

Ongoing Professional Development (OPD)

Under the *Regulation respecting Continuing Education for Medical Imaging, Radiation Oncology and Medical Electrophysiology Technologist*, members must accumulate 30 hours of training by reference period of 3 years. Among those 30 hours, technologists with an ultrasonography certification are required to perform a minimum of 5 hours of training in the ultrasound sector (from **January 1st to December 31st of each year**). The deadline for documenting all training in the on-line portfolio is **December 31st**.

When an individual obtains his certification between January 1st and June 30th of a year

of the ongoing reference period, the member must complete a minimum of **5 hours of ultrasound** training during that year.

When an individual obtains his certification between **July 1st and October 31st** of a year of the ongoing reference period, the number of ultrasound training hours that must be completed will be calculated **in proportion to the number of months** for which he has held his certification. For example: 4 hours of **ultrasound** training will be required if a technologist obtains his certification on August 1st, 3 ultrasound training hours will be required for a September 1st certification, and 2 hours of ultrasound training will be required for an October 1st certification.

If certification is obtained **after November 1st** of a year, no minimum ultrasound training hours will be required for the end of the annual period (December 31st of that year). However, 5 hours of **ultrasound** training will be required starting January 1st.



APPLICATION OF THE COMPONENTS OF THE
PROFESSIONAL STANDARD
IN ULTRASONOGRAPHY (Cont.)**COMPONENT 4****→ Maintaining ultrasound certification – Number of examinations to be performed annually**

- ▶ Depending on the specific certification, have performed at least:
 - 300 vascular ultrasound examinations
 - 300 cardiac ultrasound examinations (adult)
 - 300 abdominal-pelvic and surface ultrasound examinations
 - 300 obstetric ultrasound examinations
 - 50 nuchal translucency measurement examinations
 - 300 breast ultrasound examinations
 - 300 musculoskeletal ultrasound examinations

During the annual **portfolio analysis** period, members wishing to maintain their certification in ultrasonography must provide authenticated proof, from the employer or administrative manager, of the number of examinations performed during the given year. All technologists who are certified in ultrasonography will therefore **receive a notice from the Order**, indicating the deadline for submitting their documentation to the professional inspection team.

When an individual obtains his certification between **January 1st and June 30th** of a year of the ongoing reference period, the member must complete the total number of exams required to maintain his certification.

When an individual obtains his certification between **July 1st and October 31st** of a year of

the ongoing reference period, the minimum number of examinations to be performed during the year will be calculated **in proportion to the number of months** for which he has held his certification. For example: A technologist must complete a minimum of 125 examinations if he obtains his obstetric ultrasound certification on August 1st, 100 examinations will be required for a September 1st certification, and 75 examinations will be required for an October 1st certification.

If certification is obtained **after November 1st** of a year, no minimum number of examinations will be required for the end of the annual period (December 31st of that year). However, 300 obstetric ultrasound examinations will be required starting January 1st for him to maintain his certification.



CONCLUSION

The publication of a professional standard in ultrasonography

is a logical continuation of the various initiatives in diagnostic medical ultrasound that have been undertaken in recent years. Guided by its primary mandate of public protection, the Order hopes this standard provides a framework for medical imaging technologist practising in this sector and for their professional development. Finally, this standard allows us to expand the certification process of technologists to all areas of diagnostic medical ultrasound.



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APPENDICES

APPENDIX 1 CERTIFICATION OF TECHNOLOGISTS WHO HAVE SUCCESSFULLY COMPLETED A RECOGNIZED ULTRASONOGRAPHY TRAINING PROGRAM

Technologists who have successfully completed a training program in ultrasonography offered by one of the institutions listed below **will automatically be certified** in ultrasonography by the Order:

- ▶ Mohawk-McMaster Institute for Applied Health Sciences
- ▶ The Michener Institute
- ▶ British Columbia Institute of Technology
- ▶ NAIT- Northern Alberta Institute of Technology
- ▶ SAIT - Southern Alberta Institute of Technology
- ▶ QEII/Dalhousie School of Health Sciences
- ▶ College of the North Atlantic
- ▶ Collège Boréal

Note

In order to have the training program recognized, a transcript proving that the course was successfully completed or an attestation from the organisation recognizing the success of the training must be included with the application for certification.

In cases where a technologist wishing to be certified completed his training in an institution not included in the above list, a more in-depth analysis of his training will need to be performed. The member must therefore provide the Order with the following information regarding the training completed:

- ▶ The name of the recognized organisation or the education institution that delivered the training;
- ▶ The duration of the training program;
- ▶ A copy of the course syllabus or the objectives to be met;
- ▶ A transcript proving that the course was successfully completed or a certificate from the organisation recognizing the success of the training.

APPENDIX 2 RECOGNITION BY THE ORDER OF A TECHNOLOGIST'S COMPETENCY IN ULTRASOUND

- ▶ Upon request, the Order may evaluate and certify technologists who, in certain special situations, are unable to meet the requirements in the four components of the Professional Standard in Ultrasonography. This is a theoretical and practical evaluation process carried out by an ultrasound expert, appointed by the professional inspection service;
- ▶ Members who wish to take advantage of this service are entirely responsible for expenses associated with the evaluation.

Some examples of situations that require recognition by the Order include:

- ▶ An ultrasound technologist with over 5 years of experience in ultrasonography who does not meet the minimum requirement of the equivalent of at least 26 weeks per year;
- ▶ A certified technologist who returns to the profession after two years of leave without pay who does not meet the requirements for maintaining certification.

