

# Videofluoroscopy: a radiological method indispensable for medical practice

*Videofluoroscopia: método radiológico indispensável para a prática médica*

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Videofluoroscopy is defined as the recording in magnetic media, of X-ray images of dynamic biological events. Such events, observable at the fluoroscopic screen, are ruled by area of interest, time and exposure regimen. The recording of the images is done in real time (30 frames/second) with appropriate quality for the morphological study of exposed regions. The events can be viewed and reviewed, without new exposures. The visualization frame by frame and/or in slow motion constitute advantages of the video recording resource<sup>(1,2)</sup>.

The videofluoroscopic method can be utilized for evaluating several organic structures and systems, by utilizing appropriate contrast media. Coronariography can be obtained with similar image quality to that of conventional cinecoronariography, but with much lower radiation dose. Video bronchographic recordings in association with video endoscopy, video arthrography, video colonography in substitution to the traditional opaque enema registered on 35 mm negative film, retrograde video-cystourethrography, or even video-phlebography or video-arteriography are exams that can be performed with the support of the videofluoroscopic method.

Lower kerma-area product rates and better image quality represent realities available today<sup>(3,4)</sup>. It is important that the radiologist knows all the potential of the videofluoroscopic method, particularly the videofluoroscopic swallowing studies. The method is universally accepted as the gold standard for studies of swallowing and its disorders<sup>(5-9)</sup>. In the mouth, chewing, organization and ejection can be analyzed. In the pharynx, form, transit, palatal competence and protection of the airways can be viewed and reviewed. In the esophagus, lumen, walls, relations, transit time and sphincteric competence can be analyzed<sup>(8,10,11)</sup>.

The **Radiologia Brasileira** journal has several times covered this theme. However, and very frequently indeed, it comes to our attention that many practitioners and health

plans companies do not know the method; they never heard about it, and often ask: video what?

Videofluoroscopy is a method that restores the importance of conventional radiology. It incorporates the mouth in the study of the digestive system, and especially the pharynx, a segment that has been radiologically considered, and for a long time, an unknown territory by radiologists. One considers that a complex cervical anatomy, associated with the difficulty in maintaining pharyngeal distension by the contrast agent for the capture on film of the rapid events of swallowing, are the factors that contribute to maintain radiology away from this area<sup>(12,13)</sup>.

Dynamic images are critical for swallowing studies. For this reason, neither the cervical anatomy, nor the pharyngeal physiology, and as a matter of fact, not even its disorders present difficulties of interpretation under videofluoroscopy. Many were the morphofunctional concepts that could be reviewed by the videofluoroscopic study of swallowing, and certainly a lot can yet be learned with this method. Currently it is already considered as essential for the diagnosis and follow-up of dysphagias<sup>(9,14)</sup>.

Dysphagia, that for many is a symptom of multiple diseases, is for many others, a disease of multiple etiologies. Its diagnosis and therapy require multi-disciplinary competence. Most frequently, its etiology is neurologic, but many other causes do exist, and many are the specialties and professions whose knowledge is involved with the dysphagic disorder. Not only neurologists, practitioners, surgeons, otorhinolaryngologists, gastroenterologists, pneumologists, nutrologists, pediatricians (as dysphagia also affects children) but also nurses, speech pathologists, nutritionists and, certainly, other important professional partnerships that are not so easy to enumerate. It is necessary that the radiologists know the importance of videofluoroscopy, that they seek assistance, engage, learn, teach and disclose and practice the method.

We are a society that is aging. Cases of dysphagia are increasing. Videofluoroscopy allows for an appropriate diagnosis and guides the procedure that, without the exam, would be empirically approached, guided by trial and error.

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Too little knowledge and too little disclosure limit the benefits from the method to a few more knowledgeable patients with the necessary means and in large urban centers. The method is simple, the materials are inexpensive and the normally utilized equipment is available at most clinical centers and hospitals. The adaptation for dynamic imaging recording is technically easy and also of simple implementation. Thus, universalizing the method is more than a responsibility: it is almost an obligation. With this method we will be able to provide proper care for those patients assisted by the public health system, and those under the benefits of health insurance or health plans, who otherwise become socially excluded or disabled, or suffer and die from malnutrition and/or pneumonia.

That is why videofluoroscopy is an indispensable method in the medical practice.

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