

EDUCATIONAL, ACADEMIC  
AND PROFESSIONAL QUALIFICATIONS  
DR. GIANCARLO TIRELLI

**A) PERSONAL DETAILS**

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**B) EDUCATIONAL, ACADEMIC AND PROFESSIONAL QUALIFICATIONS**

Giancarlo Tirelli was born on 31 May 1963 in Udine where he also achieved his secondary school diploma in classical studies in 1981. He graduated in Medicine and Surgery from the Università degli Studi di Trieste in 1990 with a final mark of 109/110, going on to specialise in Otolaryngology (ORL) studies in Trieste with a final mark of 50/50 *cum laude*. In 1993 he took up a full-time junior post at the ORL Clinic in Trieste. On 1/10/1997 he was appointed as a university research member of the F15A ORL group and medical director grade 1 with the 'Ospedali Riuniti' hospital group in Trieste. In 1998 he was promoted to senior director, a post involving top-level specialist and professional duties, and in 1999 he was appointed to a senior assistant lectureship. He is a member of a number of medical associations, including the American Association for the Advancement of Science. In 1999 he received the 'Scientific Exhibition Award ECR 99 European Congress of Radiology' in Vienna, where he presented a paper entitled 'Correlation between virtual and real endoscopy in the evaluation of the nasal cavity and rhinopharynx'.

**C) CONGRESSES**

He has taken part in 12 international and 25 national congresses making 19 presentations involving 3 videos and 3 posters. On 9 occasions he acted as keynote speaker.

**D) SCIENTIFIC RESEARCH**

**His career as a researcher** commenced when he took up his junior post at the ORL Clinic of the Università degli Studi di Trieste which since 1992 has focussed on **oncological surgery of the oral cavity and oropharynx**. A surgical approach for resection is used for advanced tumours of the transmandibular tract carried out using either conservative techniques (mandibular swing approach) or surgical demolition. Both approaches allow good surgical exposure and continuity between sectioning of the tumour and neck dissection (see publications Nos. 8, 9, 11, 25).

The scope of surgical resection has been broadened in time by progress made in **plastic and reconstructive surgery**. A number of studies were carried out on the applicability of **reconstructive flaps** which had until then been the exclusive

province of aesthetic surgeons. The possibility of using a temporal flap was studied in the reconstruction of the hard palate and the tonsil area (see publications Nos. 1, 2, 7, 10, 28, 32). Further evolution of reconstructive techniques in this area has led to the autonomous use in the Trieste ORL Clinic of radial flaps by ORL surgeons. This flap, which involves microsurgery, is the best choice for oral cavity and oropharyngeal reconstructions following considerable surgical demolition (see publications Nos. 10, 27, 28, 32).

**The treatment of clinically negative neck** in patients with carcinoma of the upper aerodigestive tract is still a much-debated problem; **the prognostic factors relating to the T** have been studied and more particularly a histopathological grading system has been developed linked to the type of growth of the cancer around the edges of the tumour (Invasive Cell Grading) with the aim of programming the optional dissection of the neck only in some histopathological conditions linked to the T (see publications Nos. 4, 29, 30, 33, 44, 46, 62). The clinically negative neck was accurately ascertained using **ultrasound** and thin-slice scanning **computed tomography** with examination of the accuracy of the diagnosis in the methods used (see publications Nos. 34, 38, 49). Endoscopic results and the tumour stadium were compared to computed tomography results (see publications No. 60). Lastly, the most suitable antibiotics for use in the **surgical treatment** of this body area were also considered (see publications Nos. 3, 53). Current research provides for the gathering of results obtained using immunohistochemical **tests** (p 53, PCNA, lectins) as prognostic factors linked to the tumour and the N state (see publications No. 67).

**Within the framework of laryngeal carcinoma study** particular importance was given to the application of the **horizontal glottic laryngectomy** operation which is indicated for carcinomas of a single vocal chord affecting the anterior commissure and for carcinomas of both vocal chords and the anterior commissure as well as for some cases of serious dysplasia and/or carcinoma *in situ* on both chords (see publications Nos. 52, 61, 71). Attention was also given to treatment of **tracheostomal stenosis** using new star plastic surgery in the tracheo-cervical area (see publications No. 66).

**Within the framework of naso-sinusal research** a new diagnostic method has been introduced which is currently used in selected cases and provides for the execution of a **virtual endoscopy** using radiographical images obtained using spiral computed tomography. The images obtained radiologically are digitally processed using dedicated software in order to obtain images which are very similar to those obtainable with fibre-optic endoscopy. This method is a valid teaching tool as well as a first step towards tele-robotic surgery (see publications Nos. 48, 51, 56).

Ample space has been devoted to the **surgical treatment of inverted papilloma** of the ethmoid bone: results obtained using conservative surgical techniques were examined and compared with results obtained using surgical demolition (see publications Nos. 19, 40, 42).

Patients with perennial rhinitis (see publications No. 54) and patients with sleep apnea syndrome (see publications No. 55) were studied using **digital rhinomanometry**. **The use of cocaine was also studied as an option for local anaesthesia** of the nasal cavity and paranasal sinus **surgery** (see publications Nos. 31, 41).

**At a vestibular level** a new **canalith repositioning manoeuvre** has been codified for the treatment of benign positional vertigo. This manoeuvre, which has been successfully applied in hundreds of cases, uses 4 positionings as the patient is rotated on their own longitudinal axis (see publications Nos. 50, 58, 59, 63). Currently research in the vestibular area is focussed on the study of **visuo-oculomotor movements** (saccadic and pursuit) and the use of a stabilometric platform in vestibology (see publications No. 64)

**E) HEALTHCARE: SUMMARY OF APPLICATIONS IN  
THE CLINICAL AND HEALTHCARE AREAS**

Rhino-sinusal area:

- Further study of endoscopic surgery of the nasal cavity and paranasal sinuses with frequent periods sent abroad at the University of Graz (Prof. Stammberger).
- 118 FESS operations conducted .
- Launch (1997) and coordination of laryngeal-pharyngeal-rhinal-sinusal endoscopy service with more than 500 endoscopies carried out per year;
- Experience in obtaining still and video photo images.
- Experience in naso-sinusal 3D virtual digital navigation.
- Lecturer in 'endoscopic surgery' ORL specialisation course.

Oral and oropharyngeal area:

- In-depth study of spinocellular carcinomas in this area: analysis of surgical approaches; study of perioperative antibiotic treatment; study of early diagnosis and prognostic factors. Numerous publications in the area.
- Conducted numerous surgical operations involving demolition and conservative (laser-surgery) techniques.
- Good experience in mandibular surgery and relevant reconstructive surgery.

Laryngeal area:

- Comparative assessments of functional surgery versus surgical demolition in this body area.
- Good experience with functional- laser surgery.
- Experience with application of tracheal-oesophageal phonation valves.
- Local contact person for the 'Multicentric phonation study on laryngectomised patients' authorised by the Italian Ministry for Education, University and Research (MURST).
- Lecturer in 'Phoniatics II' ORL specialisation course.

Cervical area:

- In-depth studies on latero-cervical metastases from malignant tumours of the upper aerodigestive tracts: studies on sentinel lymph nodes; studies on cervical micro-metastatisation; studies on immunohistochemistry of the metastases.
- Good surgical experience in conservative and demolitional, comprehensive and selective dissections of lymph nodes.

Otological:

- In-depth studies of sudden hearing loss.
- Many courses attended on otological microsurgery as 'tutor'; some surgical experience in this area.
- Lecturer in 'Audiology' ORL specialisation course.

Vestibular area:

- In-depth studies of positional vertigo and visuo-oculomotor movements of head.
- Set up and coordination of an outpatient centre for diagnosis and treatment of vertigo (300 patients treated per year).
- Excellent experience in electronystagmography, video oculography, computer-assisted stabilometry.

- Lecturer in 'Otoneurology' ORL specialisation course

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