Marco Lucioni

Practical Guide to Neck Dissection
It was three o’clock in the afternoon: time for anatomy class. A badly lit room, a caretaker to collect tips, and a single lecturer for 30 students. The material on which to study practical anatomy consisted of a humerus, a femur, and an entire decomposing human forearm with skeletized muscles and tendons, reduced to shreds by previous inexperienced dissectors. Then, 2 years later at midday, I found myself in a pathologic anatomy amphitheater with 300 students. An empty corpse lay on the distant dissection table with various removed organs lined up by its side. The lecturer was giving his last class for the course and gratefully addressed the deceased, “for donating his body to the progress of science”. These are my recollections as a student of medicine 35 years ago. Yet Padua was an important University, one of the most ancient, most prestigious universities in Europe! These experiences go back many years, but I do believe the situation has changed very little since then.

These were my thoughts 15 years ago when I was invited to direct a neck dissection course in the corpse at the Vrije Universiteit Brussel. To prepare the course, after 30 years’ experience in neck surgery, I went back to, or rather, I found myself for the very first time dissecting a cadaver. I would like to thank all colleagues at the University of Padua for lending me their dissection theater. It was a stimulating, highly positive experience, enabling my coworker and me to broaden and develop our knowledge of neck anatomy and its border areas. While we iconographically documented the various cervical regions and dissection planes, our thoughts turned to past experiences in this type of activity.

Anatomic dissection for research purposes dates back to the Egyptians in Alexandria, but was prohibited in the Western world for many centuries by Jewish and Christian religious culture. A decree was passed in the Kingdom of Sicily in 1231 by Frederick II of Swabia, stating that “… all those who studied surgery should become learned in operations and particularly in the anatomy of the human body…” Mondino dei Liuzzi, author in 1316 of the treatise Anathomia, introduced cadaveric dissection into the university teaching curriculum in Bologna. The chief Council of the Serenissima Republic in Venice decreed that every year a number of corpses should be dissected “propter urbis honorem civi-unique salutem”.

However, the “anatomy century” was undoubtedly the 16th century, with its Renaissance anatomists. The most outstanding figure in the scientific revolution of that period was clearly Andreas Vesalius from Brussels (1514–1564) with his De Humani Corporis Fabrica. Prevented from practicing dissection at the University of Leuven, Vesalius came to Padua where, despite his very young age, the Serenissima government appointed him to the chair of anatomy in virtue of his extensive knowledge on the subject and corpse-dissecting skills.

Five and a half centuries later, we were to make the same journey as Vesalius, only in the opposite direction. Prevented by law and custom from holding a course on dissection in Italy, we left the land of the Serenissima in the direction of Brussels, where a modern university organization provided us with all the necessary technical equipment and 15 cadavers. We armed ourselves with our long and inveterate experience in neck surgery and our more recent know-how in cadaveric neck dissection with related iconography. When, after the second “Andreas Vesalius course”, as we call them, Dr. Marco Lucioni, my faithful coworker in the preparation and conduction of these scientific-teaching ventures, expressed the desire to produce a volume on anatomic neck dissection techniques, based on our experience, I did not hesitate to encourage him. I then enthusiastically observed the text being drawn up and divided into the various chapters and figures.
Now the volume by Lucioni is complete and ready to go to press. I find it a very carefully prepared, comprehensive, well-illustrated work, constituting an essentially practical, valid reference tool that freshens up notions in normal and topographical neck anatomy and a precious guide for anyone practicing anatomic neck dissection in the corpse. I trust my favorable, but not impartial, judgment will encourage those who wish to browse through, and hopefully read it.

Italo Serafini
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The first report on neck dissection can be traced to Richard Volkmann in 1882; however it was Franciszek Jawdynski who described the technique of the operation in 1888. Henry Butlin proposed an upper neck dissection for the treatment of tongue cancer at the turn of the nineteenth century; however, George Crile is credited for the first systematic report on classical radical neck dissection over 100 years ago, based on his personal experience of 132 cases. Since then, neck dissection has remained the mainstay of surgical treatment of metastatic cervical lymph nodes from mucosal and cutaneous carcinomas of the head and neck. Increasing experience with this surgical technique and improved understanding of biological progression of metastatic cancer to cervical lymph nodes led to the development of numerous modifications in neck dissection, with the aim of retaining oncologic efficacy but reducing the morbidity of the operation. Thus, Oswaldo Suarez initially proposed a modified neck dissection that was subsequently popularized by Ettore Bocca in English literature. Further modifications in neck dissection were proposed by Allando Ballantyne and others during the latter half of the twentieth century. The systematic classification of various types of neck dissections and its applications have been proposed and popularized by the American Academy of Otolaryngology/Head and Neck Surgery, and these are currently employed in clinical practice worldwide.

Dr. Marco Lucioni is to be complimented on putting together this outstanding piece of work initially stimulated by Italo Serafini. The book is prepared from sequential photographs of cadaver dissections of systematic steps at understanding the topographical anatomy of various layers of tissues in the neck. The author systematically describes anatomic structures in the cadaver under four different headings: the parotid region, submandibular triangle, the lateral neck, and the median cervical region. Each section describes anatomy in the superficial layer as well as the deep layer. Clinical implications of the anatomic structures in therapeutic interventions are highlighted with bullet points indicating “take home messages” and “core messages”. Each section begins with a diagram of the anatomic structures important in that region, followed by cadaver dissection, highlighting the salient features of each step of the operation. The book is complemented by a DVD showing video clips of neck dissection in the cadaver, further familiarizing the reader with step-by-step anatomic structures encountered during various types of neck dissections. The author has also thus included various modifications in neck dissection, which are currently employed in clinical practice.

For the student of head and neck surgery, this book would be a valuable resource to his or her personal library, since it is a stepwise approach to understanding the anatomy of the neck and its importance in performing a systematic, safe, and effective surgical procedure for excision of cervical lymph nodes, either involved or at risk by metastatic cancer from primary tumors in the head and neck. The photographic reproduction is crisp and clear, both in the cadaver dissections as well as in the DVD. Highly accurate and effective works such as this are crucial to further solidify the surgical prowess of head and neck surgeons of the future.

Jatin P. Shah
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Through many years of collecting textbooks of anatomy, I have cherished the magnificent descriptions of anatomy provided by the likes of Testut, Latarjet, and Rouviere. As an academic head and neck surgeon practicing and teaching in North America, I have frequently struggled not only translating them into English, but also making these descriptions intuitively usable by students of head and neck surgery.

A few years ago, I was invited to Italy to lecture on selective neck dissections. As a memento, I was given a copy of foul proof of Practical Guide to the Neck Dissection by Marco Lucioni. I was thrilled to encounter in this book the anatomy of the neck depicted in a way that only a surgeon can, when his or her knowledge and expertise are combined with the talents of a good artist and a good photographer.

As I reflect on my reactions when I read the book, I predict that a potential reader, who picks up this book out of curiosity and begins leafing through it, will at first be intrigued, if nothing else, by the exceptional quality of the drawings and by the clarity of the photographs of anatomic dissections. The reader will then feel compelled to study these illustrations and the text that accompanies them and will, shortly thereafter, come to the realization that this is not just a collection of beautiful illustrations; it is, rather, an insightful documentation of surgical anatomy of the different regions of the neck, the parotid, and the larynx. As such, it would be treasured by medical students of anatomy, who will find in it a clear, almost three-dimensional depiction of the different muscular, vascular, and neural structures of the neck. It would be equally valued by students of otolaryngology and head and neck oncologic surgery for they will find that the complex relationships of these anatomic structures are shown in a manner and sequence similar to what they would encounter during different surgical procedure in the neck, the thyroid, the parotid gland and the larynx. Teachers of anatomy and of surgery will also find it valuable since it will enable them, as it has often enabled me, to illustrate for students, residents, and fellows important anatomic structures and their relationships in a way that is not always possible in the classroom or in the operating theater.

This book will find and keep a preferential place in the library of many for it represents what we always hope for in a book of this kind, but rarely get.

Jesus E. Medina
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It is my great pleasure to write a preface for this anatomical surgical compendium for head and neck surgery edited by Marco Lucioni. I have known Lucioni for many years and have had the opportunity in his courses and during visits to Vittorio Veneto to become acquainted with and to appreciate his surgical talents. Someone with such extensive experience and deftness in head and neck surgery is predestined to edit an anatomically detailed, illustrated presentation of operations of the neck, the larynx, and the salivary glands.

The impressive, excellently photographed intraoperative sites together with the informative schematic drawings will be of help to ENT specialists, laryngologists, and head and neck surgeons in performing anatomically oriented and precise surgical dissections, while preserving structure and function. The excellent illustrations of the complex topographical relationships between muscles, blood vessels, nerves, and lymphatic structures in detailed photographs will allow the surgeon to proceed confidently even in the difficult and risk-fraught dissection of the head and neck region.

This book is a valuable contribution and is to be highly recommended as a guide for head and neck surgeons in the Italian tradition of anatomy and surgery.

Wolfgang Steiner
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I met Dr. Lucioni in Milan, about 30 years ago while he was resident at the Otorhinolaryngology Clinic of the University, then directed by Prof. Bocca. I supported Dr. Lucioni in his thesis on vasomotor rhinitis. This thesis was an excellent one, and Dr. Lucioni entered with top marks the world of Italian otorhinolaryngologists.

He then soon started to get around, looking for a position as an assistant, and, at the end of this search, asked my opinion about the chance of joining the group of Prof. Italo Serafini in the hospital of Vittorio Veneto, one of the most outstanding temples of head and neck oncology in Italy. I approved warmly.

Since then, I have had the opportunity to follow Dr. Lucioni in his career at the many meetings organized in Vittorio Veneto by Prof. Serafini. His “learning curve” in head and neck oncologic surgery was reflected in a series of anatomosurgical manuals, of which the present one is the most complete version. Anatomical drawings and beautiful photographs from cadavers are integrated into the schemes of the main surgical procedures, along a teaching path which, through the accuracy of the details and the appealing clarity of the images, achieves a noticeable didactical goal.

This book, which in my opinion is a very useful reminder for any head and neck surgeon, whichever his or her degree of skill, mirrors the talent of Dr. Lucioni and the high quality of the Vittorio Veneto Otorhinolaryngological School.

Antonio Antonelli
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I consider this a road book. An authentic road book is a set of kilometric notes and route indications that long-distance automobile competition organizers provide for participants. It has everything you need to cover the best available itinerary, and the journey becomes a relaxing discovery in which all team members participate.

The idea of an illustrated manual on neck dissection, which dates back roughly 2 years, was based on this philosophy. It seeks to guide the reader (presumably a neck surgeon wishing to improve his or her own technical skill) through the various cervical structures in all their complexity. Accordingly, the itinerary is divided into sections, from the most superficial to the deepest planes in each anatomic region, along the routes taken by surgeons operating in vivo. The structures warranting most surgical and anatomic attention and interest are also identified. Regional “visits” are generally supported by concise references to normal human anatomy, physiology, and clinical studies and by practical indications on operating techniques, thereby simulating in the corpse what should be correctly performed in vivo.

This event is a great honor for me, and I can now admit having always believed in this work. I am once again grateful to my maestro Prof. Italo Serafini, from whom I have learned a lot. I sincerely thank Dr. Giuseppe Rizzotto, colleague and friend, who encourages, participates, and makes feasible the scientific adventures of our Team in Vittorio Veneto.

Marco Lucioni
Vittorio Veneto, December 2006
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