

MANUAL OF EXPERIMENTAL MUSCLE FLAP AND ORGAN TRANSPLANTATION MODELS IN THE RAT

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The *Manual of Experimental Muscle Flap and Organ Transplantation Models in the Rat* by Zhang and co-authors represent an impressive compilation of detailed and valuable anatomical and surgical information for laboratory investigators employing microsurgical rat models. Certainly, this well-organized and well-written manual will be a valuable addition to the reference shelf in all laboratories employing rats as surgical models of human disease.

The manual is organized into three sections. The first of these concerns basic information about rat handling, anesthesia, surgery, as well as general information about the utility of animal models in basic research. This section will serve as a good introduction for the novice rat surgeon.

The second section is entitled, "Muscle and musculocutaneous flaps," but is in fact the description of virtually every free tissue transfer (except organ transplants) that has been described in the rat. There are separate chapters on the serratus anterior, latissimus dorsi, rectus abdominus, gracilis, gastrocnemius, cutaneous maximus, and pectoralis major muscle and, if applicable, myocutaneous flaps. In addition, the groin free flap, the temporoparietal fascial flap, and the free toe transfer are covered. In each chapter, a rational well-organized discussion of the general utility of the flap in experimental surgery, of the relevant anatomy for each flap, and of the surgical technique, is provided. The detailed, step by step descriptions of the surgical procedures for elevation and transfer of these flaps are especially useful. The author's vast experience with these techniques is evident in the numerous, important subtle technical points which are emphasized.

In section three, the use of microsurgical models of

whole organ transplantation is covered. An introductory chapter points out some of the history of organ transplantation in animal models and discusses some important aspects of experimental transplantation surgery, including immunosuppressants. After a chapter on hindlimb transplantation, the remaining chapters cover bowel, kidney, liver, pancreaticoduodenal, heart, testicular, and ovarian transplantation. These chapters provide the same organized and detailed description of the operations as in section two.

In all of the chapters in sections two and three, well-drawn, accurate illustrations provide an invaluable resource for the relevant anatomy and the surgical execution of each of the procedures described. These illustrations alone would make this manual a worthwhile addition to any microsurgical laboratory.

Like all publications, this manual does have several deficiencies, which the authors could perhaps address in a subsequent edition. Although the description of animal handling is quite useful, no mention is made of the importance of strict adherence to the National Institutes of Health Guide for the Use and Care of Laboratory Animals (NIH Publication 86-23). Secondly, this multi-author manual has chapters by a number of people who are not listed in the list of authors on the cover. It would probably be most appropriate to indicate that Zhang, Lineaweaver, Kao, Walker, and Tonken have in fact edited this multi-author manual, and then to acknowledge each of the authors in a separate location. In addition, this manual has been obviously published with the aid of commercial sponsorship. Although the name of the company appears prominently on the front and

back covers of the manual, no acknowledgment of commercial support is forthcoming anywhere within the body of the manual. It would be most appropriate to acknowledge the exact relationship between the commercial sponsor and the editors.

Aside from these rather philosophical considerations, the only specific comment I would have about the manual itself is that the reference lists at the end of each chapter are repetitive, vary in quality, and are sometimes quite myopic. In addition, references are cited as end notes only, and are not cited parenthetically within the text. This style of reference citation significantly diminishes the value of this manual as a reference material, since the reader is not able

to specifically target individual references for specific data cited in the text.

These concerns aside, this manual now represents *the* authoritative reference for free tissue transfer surgery in the rat. As I have already stated, every laboratory performing rat microsurgery should plan to acquire this impressive and valuable book.

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