



**Figure 2**—Scintigraphic images of the distribution of sodium cromolyn- $^{99m}\text{Tc}$  aerosol in the respiratory tract of a horse administered through a hand-operated nebulizer. Radioactivity in the (A) posterior pharynx and trachea, (B) thoracic inlet, and (C) and (D) caudodorsal region of the lung.

distributed in the lungs using this method of administration, detectable radioactivity being largely confined to the caudodorsal region (Fig. 2C and D).

A simple visual comparison of images showed that satisfactory pulmonary distribution of sodium cromolyn aerosol in normal horses occurred following administration by the combination air compressor–nebulizer–face mask. Preliminary analysis of the distribution data of the radioactivity in the respiratory tract indicated that 7.5% of the initial dose remained in the nebulizer, while 30–40% remained in the tubing and face mask. It is estimated that 40–50% of the radioactivity was confined to the nostrils and

muzzle, while 10–15% of the radioactivity was distributed in the lungs.

In conclusion, external scintigraphy may provide a convenient noninvasive method for evaluating the different techniques and modes of aerosol administration and visualizing their distribution in the lungs of the horse. Further research is in progress to assess the effect of the droplet size on the resolution of the technique and the distribution of the aerosol in the lungs. In addition, an effort is being made to develop a model in which the count rates taken from the lung area are weighted for tissue attenuation and variable geometry so that more accurate estimates can be obtained.

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Received March 9, 1982.

Accepted for publication December 21, 1982.

Supported in part by Illinois Thoroughbred Breeder's Fund, STIL-AGHORSE 06-39333 and 06-39330.

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## BOOKS

### REVIEWS

**Recent Advances in the Biology of Alcoholism.** Edited by C. S. LIEBER and B. STIMMEL. (Advances in Alcoholism and Substance Abuse, Vol. 1 No. 2). The Haworth Press, 28 East 22nd Street, New York, N.Y. 10010. 1982. Hardcover.

This book contains several authoritative and timely review articles about the effects of ethanol on the liver and the endocrine system. The coverage is much narrower than indicated by the title: effects of the drug on the brain are not included. The chapters are papers delivered in a 1980 symposium at the Alcohol Research and Treatment Center at the Bronx VA Hospital; several of the papers are by Dr. Lieber and his group at the Center. The authors are recognized experts in their fields, which vary from pure biochemistry to clinical gastroenterology.

J.-P. Von Wartburg provides a lucid review of alcohol metabolism by alcohol and aldehyde dehydrogenases, including recent genetic information about racial differences in responses to alcohol. S. Orrenius writes a concise description of metabolic drug interactions from a biochemist's point of view, and Lieber and Pirola follow with a detailed clinically oriented review of the same topic, with many specific examples. Both reviews of drug interaction emphasize and explain the role of MEOS, the hepatic microsomal ethanol-oxidizing system. Lieber also contributes

a general chapter on the effects of ethanol on the liver, largely from his own extensive work. The final chapter by T. J. Cicero covers recent important advances in our understanding of effects of ethanol on the endocrine system, with emphasis on the factors that affect testosterone levels. This is a logical and sensible essay which minimizes controversy and brings scattered data together into a reasonably coherent picture.

Technical details such as typographical errors, poor quality paper, and inadequate reproduction of some figures detract slightly from the otherwise admirable text. More important is the lack of an index, which will greatly reduce the usefulness of this book.

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**Handbook of Dissolution Testing.** By WILLIAM A. HANSON. Pharmaceutical Technology Book Division, 320 N. A St., P.O. Box 50, Springfield, OR 97477. 1982. 163 pp. 13 × 22 cm. Price \$26.50.

This book describes in detail the two official USP-NF dissolution test methods and the nonofficial flow-through method. The author views dissolution testing solely as a quality control test whether or not the test