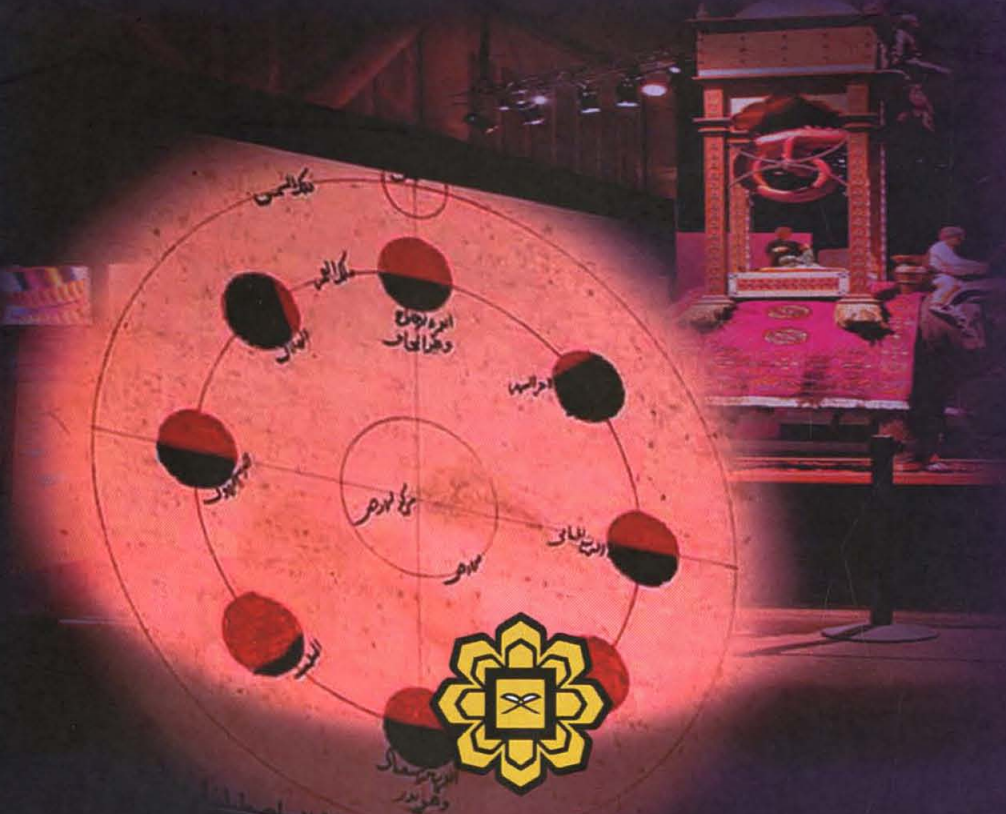


# Contributions of Muslim Scientists to Medicine and Related Sciences

Abdi O. Shuriye  
Raihan Othman



IIUM Press

INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA

# **Contributions of Muslim Scientists to Medicine and Related Sciences**

---

Editors  
Abdi O. Shuriye  
Raihan Othman



**IIUM Press**

Published by:  
IIUM Press  
International Islamic University Malaysia

First Edition, 2011  
©IIUM Press, IIUM

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without any prior written permission of the publisher.

Perpustakaan Negara Malaysia

Cataloguing-in-Publication Data

Abdi O. Shuriye: Contributions of Muslim Scientists to Medicine and Related Sciences

ISBN: 978-967-418-155-0

Member of Majlis Penerbitan Ilmiah Malaysia – MAPIM  
(Malaysian Scholarly Publishing Council)

Printed by :  
IIUM PRINTING SDN.BHD.  
No. 1, Jalan Industri Batu Caves 1/3  
Taman Perindustrian Batu Caves  
Batu Caves Centre Point  
68100 Batu Caves  
Selangor Darul Ehsan  
Tel: +603-6188 1542 / 44 / 45 Fax: +603-6188 1543  
EMAIL: iiumprinting@yahoo.com

# *Contents*

<u>TITLE</u>	
Preface	v
Acknowledgment	vi
Lists of Contributors	vii
Introduction	1
Chapter 1 Al-Majusi Contribution in the Understanding of the Cardiovascular System and Blood Circulation	3
Chapter 2 Al-Majusi: The Pioneer in Obstetrics	7
Chapter 3 Al-Razi Works and Contributions in Neurological Sciences	12
Chapter 4 Ar-Razi on Gout	19
Chapter 5 Ali Bin Isa Al-Kahhal: Pioneer in Ophthalmology	25
Chapter 6 Al-Majusi's Treatment of Physical Diseases Using Drug Therapy and Surgical Manipulation	30
Chapter 7 Al-Razi's Understanding and Curing of Smallpox and Measles	35
Chapter 8 Al-Razi's Contribution to the Study of Nexus between Human Mind and Body	39
Chapter 9 Abu Zayd Ahmed Ibn Sahl Al-Balkhi on Medical Psychology	45
Chapter 10 Contributions of Ashraf Ali Thanwi to Mental Disease Treatment	49
Chapter 11 Ibn Zuhr on Diseases and Treatments	54
Chapter 12 Ibn Al-Jazzar on Fever	59
Chapter 13 Ibn Al-Khatib and his Theory of Contagion	64
Chapter 14 Ibn Al-Nafis Contribution in Urology Progress Practices	67
Chapter 15 Ibn Al-Quff on Preventive Medicine	72
Chapter 16 Ibn Sina on Aromatherapy	76
Chapter 17 Studies in Gynaecology in Zad Al-Musafir Wa Qut Al-Hadir of Abu Jaafar Ibn Al-Jazzar	81
Chapter 18 Contributions of Ibn-Sina in Pharmaceutical Sciences	88
Chapter 19 The Contribution of Ibn Al-Baitar in Medicine	94
Chapter 20 The Contribution of Saghir Akhtar in Pharmaceutical Science	99
Chapter 21 The Glorious Contribution of Ibn Al-Quff on Cardiology and Embryology as Well as Other Surgical Matters	104
Chapter 22 Success Journey of Mehmet Oz in Cardiothoracic Surgery	109

Chapter 23	Abu Al-Qasim Al-Zahrawi's Contribution to Neurosurgery	115
Chapter 24	Al-Zahrawi Method on Inflammatory Swellings and Tumours Surgery	120
Chapter 25	Oculist's Contributions to Cataract Operation	126
Chapter 26	Al-Zahrawi Contribution to Medical Instruments	131
Chapter 27	Al-Zahrawi's Explanation on Bone Fractures and Its Surgical and Non-Surgical Treatments	137
Chapter 28	Inhalation and Oral Anesthetics: Views of Selected Muslim Physicians	144

## CHAPTER TWENTY THREE

### ABU AL-QASIM AL-ZAHRAWI'S CONTRIBUTION TO NEUROSURGERY

Asfana Banu Binti Mohamad Asharaf, Abdi O. Shuriye

Fac. of Eng., International Islamic Univ. Malaysia (IIUM), Jalan Gombak, 53100 Kuala Lumpur, Malaysia

#### 23.1 INTRODUCTION

This chapter investigates Al-Zahrawi's contribution to surgery especially neurosurgery. The main objective of this chapter is to study Al-Zahrawi's views on neurosurgery operation. Neurosurgery is concerned on causes of brain diseases, spine, peripheral nerves, and arteries of the neck. Abu Al-Qasim Al-Zahrawi was born in 936 C.E. in city Zahra of Cordoba. He was regarded as the father of modern surgery and his *Kitab al-Tasrif* (Book of Confessions) which consists of 30 volumes was translated into various European languages and used in medical schools.

#### 23.2 HYDROCEPHALUS

Hydrocephalus means water and head which is normally known as the condition "water on the brain". The treatment of hydrocephalic children, surgical evacuation of superficial intracranial fluid was found by Al-Zahrawi. He also mentioned that sometimes the fluid collected between the skin and the bone, and sometimes between the bone and meningeal coverings. In clinical practice, the infants with hydrocephalus have abnormally large heads because of the presence of high pressure of the fluid in the individual skull bones. In his book, Al-Zahrawi described the surgery instrument used in the treatment of "infantile hydrocephalus" (M. Turgut, 2009, pp. 1043-1044; N. R. F. Al-Rodhan, 1986, pp. 92-95). The patient was treated with a transverse incision made in the middle of the head. A deep incision made to release fluid between the meninges and bone. Then a tight dressing using cotton was applied to prevent reaccumulation of the fluid (N. R. F. Al-Rodhan, 1986, pp. 92-95; L. Bakay, 1982, pp.284-285). Thus, sometimes the patients would have died of hemorrhagic complications secondary to superior sagittal sinus rupture (A. Aciduman, 2007, pp. 513-516; L. Bakay, 1982, pp.284-285). The instrument used is shown in Figure 1.