

Certification Logbook for Competencies in Clinical Physiology Procedures

for Phase I MBBS Students

is a step forward towards fulfilling the requirements of the newly introduced Competency Based Medical Education (CBME) curriculum for the Indian medical undergraduates. The first edition of this logbook was a maiden venture in this direction and was warmly embraced by faculty and students of various medical colleges throughout India. This edition has been thoroughly revised based on the feedback received from our esteemed patrons and also according to the Logbook Guidelines issued by the Board of Governors, Medical Council of India (now replaced by National Medical Commission).

Highlights of the Second Edition:

- ❖ Completely revised layout and format.
- ❖ Index section has been revamped to indicate the number and type of attempts taken.
- ❖ Usage and assessment guide for teachers is presented in a detailed, yet simple manner.
- ❖ Competency assessment system has been modified as per latest guidelines.
- ❖ Checklists have been reframed for various clinical procedures as per standardised protocols.
- ❖ Newer references have been added at some places for various clinical procedures.

Jyoti Sethi MBBS MD is currently Professor and Head, Department of Physiology, Kalpana Chawla Government Medical College, Karnal, Haryana. She completed her graduation from Pt JNM Medical College, Raipur, Chattisgarh, and postgraduation from Postgraduate Institute of Medical Sciences (PGIMS), Rohtak (Haryana) in 2002. She joined PGIMS, Rohtak, as faculty soon after and worked there in various capacities till 2016. She is also the founder secretary of the Association of Physiologists of Haryana. She has to her credit around 40 publications in various indexed national and international journals and has guided various research projects. She has almost 17 years of teaching experience for various streams like MD (Physiology), MBBS, BDS, BSc Nursing, BPT, etc. She was awarded "Letter of Appreciation" for her teaching efforts. She is also among the peer review panel of various national and international journals. The department of physiology at KCGMC, Karnal, has been developed under her able guidance.

Sharat Gupta MBBS, MD is currently Associate Professor, Department of Physiology, Kalpana Chawla Government Medical College, Karnal, Haryana. He did graduation from Government Medical College, Amritsar, Punjab, in 2004 and postgraduation from Government Medical College, Patiala, Punjab, in 2009. He has been conferred with the highly coveted "Lung India 2011 Award—Outstanding Original Article" by Indian Chest Society for his research work involving spirometry in traffic policemen. He has published 14 research articles in reputed national and international Pubmed indexed journals. He has more than a decade of teaching experience involving various medical and allied undergraduate streams. He is a member of the Editorial Advisory Board for Physiology at Thieme Medical and Scientific Publishers Private Limited, India, an active peer reviewer of various indexed national and international journals. He is on the examiners panel of various medical universities and has been invited as a guest speaker in a number of CMEs. He is currently in charge of neurophysiology laboratory of the Institute, and his fields of interest include evoked potentials, respiratory physiology and endocrinology.

Second Edition

Second Edition

Certification Logbook for Competencies in Clinical Physiology Procedures for Phase I MBBS Students

Sethi | Gupta

CBS

Second Edition

Certification Logbook for Competencies in Clinical Physiology Procedures

for Phase I MBBS Students

As per latest CBME curriculum of Board of Governors, MCI

Compiled by
Jyoti Sethi
Sharat Gupta

Dedicated to Education



CBS Publishers & Distributors Pvt Ltd

4819/XI, Prahlad Street, 24 Ansari Road, Daryaganj, New Delhi 110 002, India
E-mail: delhi@cbspd.com, cbspubs@airtelmail.in; Website: www.cbspd.com
New Delhi | Bengaluru | Chennai | Kochi | Kolkata | Mumbai
Hyderabad | Jharkhand | Nagpur | Patna | Pune | Uttarakhand



QR code to access online CBS Catalogue

ISBN: 978-81-94708-22-3



CBS Dedicated to Education
CBS Publishers & Distributors Pvt Ltd

Second Edition

Certification Logbook for Competencies in Clinical Physiology Procedures

for Phase I MBBS Students

(As per Latest CBME Curriculum of Board of Governors, MCI)

Student's Name: _____ S/D/O Sh. _____

Name of College: _____

Date of admission to MBBS course: _____

Date of beginning of Phase I: _____

College Roll No.: _____ University Roll No.: _____

Permanent Address: _____

E-mail ID (Optional): _____

*Certified that the above candidate has **satisfactorily completed/not completed** all the 13 Clinical Physiology competencies mentioned in this logbook for Phase I MBBS. He/she is **eligible/ineligible** to appear for the final University examinations as on date mentioned below.*

(Signature of Faculty In-charge,
Department of Physiology)

(Signature of Professor and Head,
Department of Physiology)

Date: _____

Second Edition

Certification Logbook for Competencies in Clinical Physiology Procedures

for Phase I MBBS Students

(As per Latest CBME Curriculum of Board of Governors, MCI)

Compiled by

Jyoti Sethi MBBS MD

Professor and Head

Department of Physiology

Kalpana Chawla Government Medical College

Karnal, Haryana, India

Sharat Gupta MBBS MD

Associate Professor

Department of Physiology

Kalpana Chawla Government Medical College

Karnal, Haryana, India



CBS Publishers & Distributors Pvt Ltd

New Delhi • Bengaluru • Chennai • Kochi • Kolkata • Mumbai
Hyderabad • Jharkhand • Nagpur • Patna • Pune • Uttarakhand

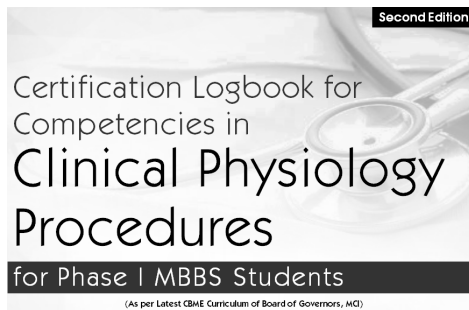
Disclaimer

Science and technology are constantly changing fields. New research and experience broaden the scope of information and knowledge. The authors have tried their best in giving information available to them while preparing the material for this book. Although, all efforts have been made to ensure optimum accuracy of the material, yet it is quite possible some errors might have been left uncorrected. The publisher, the printer and the authors will not be held responsible for any inadvertent errors, or inaccuracies.

Disclaimer:

We wish to clarify that this logbook should not be misunderstood as a clinical practical manual. It is to be meant to be used solely for certification purpose of the Phase I MBBS students in all the 13 clinical physiology procedures as per the CBME curriculum for the Indian Medical Graduate (IMG).

—Authors



ISBN: 978-81-947082-2-3

Copyright © Authors and Publisher

Second Edition: 2021

First Edition: 2020

All rights reserved. No part of this book may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording, or any information storage and retrieval system without permission, in writing, from the authors and the publisher.

Published by Satish Kumar Jain and produced by Varun Jain for

CBS Publishers & Distributors Pvt Ltd

4819/XI Prahlad Street, 24 Ansari Road, Daryaganj, New Delhi 110 002

Ph: 23289259, 23266861, 23266867 Fax: 011-23243014 Website: www.cbspd.com

e-mail: delhi@cbspd.com; cbspubs@airtelmail.in

Corporate Office: 204 FIE, Industrial Area, Patparganj, Delhi 110 092

Ph: 011-4934 4934

Fax: 011-4934 4935

e-mail: publishing@cbspd.com; publicity@cbspd.com

Branches

- **Bengaluru:** Seema House 2975, 17th Cross, K.R. Road, Banasankari 2nd Stage, Bengaluru 560 070, Karnataka
Ph: +91-80-26771678/79 Fax: +91-80-26771680 e-mail: bangalore@cbspd.com
- **Chennai:** 7, Subbaraya Street, Shenoy Nagar, Chennai 600 030, Tamil Nadu
Ph: +91-44-26260666, 26208620 Fax: +91-44-42032115 e-mail: chennai@cbspd.com
- **Kochi:** 42/1325, 1326, Power House Road, Opp KSEB Power House, Ernakulam 682 018, Kochi, Kerala
Ph: +91-484-4059061-67 Fax: +91-484-4059065 e-mail: kochi@cbspd.com
- **Kolkata:** No. 6/B, Ground Floor, Rameswar Shaw Road, Kolkata-700014 (West Bengal), India
Ph: +91-33-2289-1126, 2289-1127, 2289-1128 e-mail: kolkata@cbspd.com
- **Mumbai:** 83-C, Dr E Moses Road, Worli, Mumbai-400018, Maharashtra
Ph: +91-22-24902340/41 Fax: +91-22-24902342 e-mail: mumbai@cbspd.com

Representatives

- | | | | | | |
|-------------|--------------|-------------|--------------|---------------|--------------|
| • Hyderabad | 0-9885175004 | • Jharkhand | 0-9811541605 | • Nagpur | 0-9421945513 |
| • Patna | 0-9334159340 | • Pune | 0-9623451994 | • Uttarakhand | 0-9716462459 |

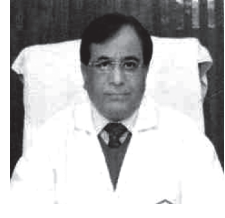
Printed at Glorious Printers, Daryaganj, Delhi, India



“Physiology of today is the medicine of tomorrow”
Dr Ernest Henry Starling
British Physiologist
(1866-1927)

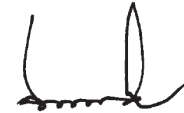
Foreword

It gives me immense pleasure in writing the Foreword to this *manual Certification Logbook for Competencies in Clinical Physiology Procedures* authored by Prof Jyoti Sethi and Associate Prof Dr Sharat Gupta, Department of Physiology, Kalpana Chawla Government Medical College, Karnal. In 2014, I co-authored an article in *Medical Teachers* on **Medical Education in India: Current Challenges and the Way Forward**. We had emphasized the role of skill development during teaching and training of the medical students of India. I am happy to note that new curriculum brought out by the Board of Governors of Medical Council of India has given ample emphasis for Competency Based Medical Education (CBME). The new curriculum has been restructured and introduced from the academic year of 2019–20.



Physiology teaching during the undergraduate trainings as per CBME required 13 procedures to be perfected by each MBBS student needing certification by the Head, Department of Physiology, at the end of the session. To fulfil this requirement this manual will ensure quantification and assessment of students in clinical physiology in an objective and standardized manner leaving no chance of subjective bias. Further, the checklist for each procedure based on objective structured clinical examination (OSCE) has been provided. The assessment card provided in the logbook will facilitate the teacher to evaluate every student in a holistic manner with reference to his/her clinical skills and soft skills as a part of assessment of cognitive as well as communicative (AETCOM) domains.

What is most impressive about this *manual* is that it is comprehensive and as per the CBME requirements. I am sure that both medical teachers as well as students will benefit from the extensive efforts made by Prof Jyoti Sethi and Associate Prof Dr Sharat Gupta in bringing out this book in the shortest possible time.



Dr Surender Kashyap

Director

Kalpana Chawla Government Medical College
Karnal, Haryana

Foreword

It gives me immense pleasure to write the Foreword to this very useful and helpful *manual* conceptualized and brought out with the objective of standardizing the certification of certain competencies in clinical physiology, by two very dedicated and active teachers who are not only experts in their subject but are also motivated to implement the new CBME curriculum in letter and spirit.



During attending the various faculty development programs, first as a learner in regional/nodal centers and later as a resource faculty in different medical colleges, I observed that there was a lot of apprehension and speculation about the process of certification of competencies during the implementation of CBME curriculum. Nobody actually knew how to go about it and wanted some guidance about it. The common point of concern was as to how uniformity will be attained in various medical colleges across the country. This issue also came up in our discussion when we were preparing the First Prof time table at our institute. We strongly felt a need that there must be a standardization of the certification methods, otherwise it will compromise the essence of CBME. That was the moment when the idea of this *manual* was conceived by the authors and in record time they came out with the manual. Not only the effort but also the purpose is commendable. The USP of this manual is that the certification method has been framed by using reputed international clinical medicine textbooks as a reference.

I am sure this manual will prove to be very helpful for both teachers and students as it will help in reducing the subjective variation in certification and assessment of competencies. I also feel it will provide framework and motivation for designing such a manual for other specialties of the course.

A handwritten signature in black ink, appearing to read 'Himanshu'.

Dr Himanshu Madaan

Professor, Department of Biochemistry

Dean Academics

Kalpana Chawla Government Medical College

Karnal, Haryana

and

Resource Faculty, MCI Regional Centre for

Faculty Development Programs, MAMC

New Delhi



Preface to the Second Edition

The year 2019 proved to be a turning point in the history of medical education since the Board of Governors; Medical Council of India introduced the competency based curriculum for medical undergraduates (CBME). The primary objective of this new curriculum is improvement of clinical skills of the Indian Medical Graduate (IMG) via mandatory certification of certain essential clinical procedures across various disciplines of medicine, including Physiology. The previous edition of this logbook was a maiden venture of the authors in this direction. We received an overwhelming support and constructive comments from our fellow colleagues throughout India who whole-heartedly embraced this book. Based on some of the inputs which we have received and also on the logbook guidelines which were recently issued by the Board of Governors, Medical Council of India (now replaced by National Medical Commission), we have revamped this logbook with a few subtle yet important changes so as to make it more pragmatic. We hope to continue receiving your valuable inputs to improve the future editions also.

Salient features:

1. The layout and format has been revised based on the logbook guidelines issued by Medical Council of India.
2. Index section has been revamped to indicate the no. and type of attempt for a particular procedure.
3. The assessment system for competencies has been modified as per latest recommendations of MCI.
4. Observations/Results obtained by the students for a procedure can be recorded in the ACTIVITY PERFORMA that is provided with each procedure.
5. Checklists for various clinical procedures have been reframed by including important steps and precautions relevant to those procedures.

Jyoti Sethi
Sharat Gupta

Preface to the First Edition

The Board of Governors, Medical Council of India, has recently overhauled the age-old medical curriculum and has recently introduced the Competency Based Undergraduate Curriculum for the Indian medical graduate. This new curriculum has been designed keeping in mind the long pending demand of the experts of removing redundancy from the age-old curriculum and incorporating contemporary methodologies centred on acquisition of clinical skills by the MBBS students right from 1st year itself. It has also been felt that the student should be competent enough in certain basic clinical procedures being taught in the subject of human physiology, so that when they enter clinical ward/OPDs in 2nd year during clinical postings, they should be confident enough in performing basic clinical examination procedures on actual patients. A total of 13 such procedures in clinical physiology have been identified which need to be certified by the Professor and Head, Department of Physiology of medical colleges throughout India, for each student.

In this regard, the present logbook serves a dual purpose. On the one hand, it provides a ready reference which will guide the teachers as to how to assess the student in a holistic manner and on the other, at the same time it will also serve as a record book in which the data pertaining to the student certification and assessment can be entered.

We would also like to appraise our worthy colleagues and students that the contents of this book are open to constructive comments/review/suggestions. We will try to incorporate these in the future editions of this book. It is recommended that both the teachers as well as the students should read the corresponding guidelines given at the beginning of this book so that they can derive maximum benefit from this book.

Jyoti Sethi
Sharat Gupta

Acknowledgements

We bow our heads in gratitude before the Supreme Almighty for bestowing us with the intellect, resources, zeal and good luck; all of which are equally important for the success of any venture.

We are deeply indebted to our teachers who shaped the course of our academic careers with their assiduous pedagogy and meticulous guidance.

We are also grateful to our family members for being our pillar of strength and providing us their much needed love and moral support 24 × 7 during the preparation of this manuscript. Without them, this project would have never seen light of the day.

We extend our thanks to Dr Surender Kashyap, worthy Director, Kalpana Chawla Government Medical College, Karnal, Haryana, for providing a conducive academic environment and motivating us to fulfil his mission of making KCGMC a world class institution.

Our heartfelt gratitude is also due to Dr Himanshu Madaan, Professor of Biochemistry and Dean Academics, Kalpana Chawla Government Medical College, Karnal, Haryana, and Resource Faculty for MCI Regional Centre for Faculty Development Programme, Maulana Azad Medical College, New Delhi. It is her undulating passion in the field of medical education that has constantly motivated us to give our 100% efforts for the success of CBME curriculum.

Most importantly, our heartfelt thanks is also due to the entire team of CBS Publishers, especially Mr Satish Kumar Jain (CMD), Mr Varun Jain (Director), Mr YN Arjuna (Senior Vice President—Publishing, Editorial and Publicity), Mr Sumit Behl (Assistant Marketing Manager) and Ms Ritu Chawla (General Manager) for realising our potential and helping us in fruition of this manuscript.

Last but not the least, we are also thankful to all our students, past and present, because it is their presence that constantly inspires us to do better!

Jyoti Sethi
Sharat Gupta

Contents

<i>Foreword</i> by Dr Surender Kashyap	<i>vii</i>
<i>Foreword</i> by Dr Himanshu Madaan	<i>viii</i>
<i>Preface to the Second Edition</i>	<i>ix</i>
<i>Preface to the First Edition</i>	<i>xi</i>
<i>How to Use this Certification Logbook: A Guide for Teachers</i>	<i>xix</i>
<i>How to Perform Well in Competency Assessment: Some Tips for Students</i>	<i>xxi</i>
<hr/>	
Cardiovascular System	1
Respiratory System	12
Neurophysiology	16

