SPECIAL PAPER

ANAESTHESIA, PAIN & INTENSIVE CARE
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How to arrange and conduct a successful CME event on airway management

Tanmay Tiwari[1], Prem Raj Singh[1], Tanya Tripathi[2]

[1]Associate Professor, Department of Anesthesiology, King George's Medical University, Lucknow, (India)
[2]Resident, Department of Pathology, Era Lucknow Medical College, Lucknow, (India)
Correspondence: Dr. Tanmay Tiwari Assistant Professor Department of Anesthesia & Critical Care King George's Medical University, Lucknow, (India)
Email: tanmayanesthesia@gmail.com
Phone: +91-9452526270
Received: 26 August 2019,
Reviewed: 29 August, 7 September 2019,
Revised: 4 September 2019,
Accepted: 14 September 2019

ABSTRACT

Medicine is an ever-evolving branch of science, which requires regular teaching and training for the core purpose of patient safety. Physicians around the world are attending newer courses, workshops and continuing medical education (CME) programs to enhance their individual clinical skills. These courses offer much beyond the didactic lectures and are now routinely recommended by the regulatory authorities of most of the countries. This article will provide in-depth information for the conceptualization, planning and conduct of any educational medical course with a special reference to airway management.

Key words: Accreditation, Airway, Anesthesiologists, Education, Physicians, Continuing medical education

Citation: Tiwari T, Singh PR, Tripathi T. How to arrange and conduct a successful CME event on airway management. Anaesth pain & intensiv care 2019;23(3):318-324

INTRODUCTION

Management of the airway is the most critical and important step, which helps in saving the life of an individual, both in and out of hospital cardiopulmonary emergencies. During anesthesia and resuscitation efforts airway management comes under top priority. Failure to maintain a patent airway for more than a few min may result in brain damage and even death.[1]

With ever increasing research and innovations in the field of airway management, newer technologies, newer gadgets and newer guidelines have appeared in the recent years with a common focus of better patient management and enhanced safety profile. Physicians involved in airway management need to learn these new skills, master new devices and develop new airway strategies. Continuing medical education (CME) is an established method that facilitates learning and helps in developing knowledge, skills and relationships to ensure competent practice.[2]

Requirement of the course:

Safe clinical practice in anesthesia requires regular update of knowledge and skills. With ever-increasing incidence of trauma, accidents, head injury, obesity, and head and neck cancer making access to the patients airway difficult, it is not only prudent for the anesthesiologist but also for emergency physicians, trauma surgeons and paramedical staff to get well versed with recent advances and techniques of airway management at regular intervals. It is vital for the physicians to be skilled and trained with current gadgets and devices of airway management to provide the best care for their patients. CME is considered a core component of continuous professional development (CPD). In a quest to excel in their field, clinicians are increasingly engaging in learning activities that provide specialist teaching beyond didactic lectures.[3] Medical performance and patient outcomes are greatly improved by CME, if structured appropriately.[4] King George's Medical University (KGMU) organizes Airway Management Course with a motive to provide a compact one day CME program, with an interactive hands-on workshop with lectures, simulation, multimedia video session and 'how-I-do-it' sessions, to provide a platform for disseminating knowledge and skills pertaining to airway management.

Intended participants:

Every medical college or university or hospital caters to the needs of a large segment of population of the surrounding area. The demand on medical services is ever-increasing with an ever-increasing population. The burden on healthcare sector is not only restricted to elective medical or surgical patients, but it has another more pressing issue of dealing with a higher rate of accidents and more and more trauma casualties. With such a large population to cater for, continued training of anesthesiologists, emergency physicians, oral surgeons, residents and medical graduates is required in the field of airway management. The anesthesiologists being the airway specialists, need to conceptualize and run the training courses to meet the demands of healthcare professionals in terms of both basic and advanced airway management. The courses must be designed to cater for the education and training level of the target participants. A course intended for practicing anesthetists is usually of a higher class than the one being run for the nursing staff of general medical or surgical ward.

PLANNING

Planning from idea to execution:

Idea of organizing an airway management course is conceived with a motive to provide the highest quality teaching and training, to stay current with airway management tools and the latest techniques to provide the best care for our patients, and provide an opportunity to the experienced practitioners to refresh their knowledge and skills.

As discussed in the previous paragraph, the level of the course must be decided according to the educational status and skill level of the intended participants. The lectures and the skill stations have to be selected accordingly (Table 1).

Course Director:

One of the senior faculty members of the host institution or a guest faculty might be designated as the course director. He / she is responsible for the full program, from the inception to lay-out, to the scope and to the execution.

Duration of the Course:

Duration may be decided according to the needs of the participants and the availability of the venue and the resources. It might be a one-day course, comprising of plenary talks followed by hands-on practical training session, or it may be extended to two days, gradually ascending from basic to advanced airway techniques. The basic skill level and the target skill level of the participants may dictate the duration.

Scheduling the Course:

To make the course a success, the dates must be decided about 60 days before the course to allow adequate preparations to avoid any last minute glitches. An effort is made to avoid any date clash with festivals, local or national holidays and any other major anesthesia or pain conference. It is important to ensure a sufficient course attendance. Due to early announcement, it is easier for the participants to plan their travel well in advance and at much cheaper rates.

Dates need to be decided while keeping the local weather conditions in sight. Also the expected dates for yearly entrance admissions to post-graduate courses as well as the examinations need to be considered. It is convenient for the serving participants to avail leave a day before Sundays or with other close holidays.

PREPARATION

Academic program preparation:

Academic or scientific schedule is the actual soul of the CME and workshop, therefore it should be attractive, with hot topics and with renowned speakers. Academic schedule for the course is decided by a core group of organizing team, comprising of senior anesthesiologists with sufficient teaching and working experience in the field of anesthesia.

Academic schedule is usually divided into thematic sessions;

Morning session of about 4 hours should comprise of keynote lectures, 'how-I-do-it' problem based case discussion, video session showing different approaches to airway management using various gadgets and techniques, and

Afternoon session of 4 hours including hands on workshop on various workstations.

Keynote lectures are allotted to senior academicians who have extensive experience in the field of airway management. These lectures should cover topics like 'Airway Assessment- Current Status', 'Difficult Airway Guidelines', 'Ultrasonography (USG) of Airway', Apneic Óxygenation', and ; Extubation of Difficult Airway'.

'How-I-do-it' - Problem based case discussions are short case based scenarios of difficult airway; on topics which include airway management in morbidly obese, burns, pediatric cleft lip palate, head and neck trauma, temporo-mandibular joint ankylosis, upper airway malignancy, and pregnancy. For this session practical approaches to particular cases are discussed with special take home message content.

The final session before lunch may be planned as a video session which showcases the tricks and

Table 1: Hands-on workstations and equipment required

Workstation	Equipment
Workstation 1: Basic face mask techniques	Face masks, Assorted types and sizes; Guedal oropharyngeal airway; Nasopharyngeal airway; Ambu bag; Airway manikin; Gel
Workstation 2: Supraglottic airway (SGA or SGD)	I-gel; Air-Q; LMA Classic; LMA Proseal; FasTrach,or the LMA Supreme. The LMA Unique; Combitube; Laryngeal tube; Airway manikin; Gel
Workstation 3: Intubation; routine	Endotracheal tubes, assorted sizes; McGill Laryngoscope handle, adult, pediatric; Macintosh laryngoscope blade, assorted sizes; Miller blade, assorted sizes; McCoy blades, two sizes; Intubation trainer manikin; Gel
Workstation 4: Intubation; Difficult	Endotracheal tubes, assorted sizes; Video laryngoscopes (rigid) VividTrac®, King Vision®, V-Mac® (Storz), C-Mac®, GlideScope®, McGrath MAC®, Pentax-Airway Scope® Airtraq®, Bonfils®, Bullard® laryngoscope, Ambu A-scope® ETView®, TruView®, Trachlight®, Shikani® Intubation trainer manikin; Gel
Workstation 5: Intubation; Difficult	Endotracheal tubes, assorted sizes; Flexible fiberoptic bronchoscope, adult, pediatric; Berman and Ovassapian airways; Intubation trainer manikin; Gel
Workstation 6: Surgical airway	Cricothyroidotomy set; Cricothyroidotomy manikin Epidural set for retrograde intubation

techniques of multiple alternative approaches to difficult intubation like submental intubation, retrograde intubation, lightwand assisted intubation, blind awake nasotracheal intubation, percutaneous cricothyroidotomy and awake fiberoptic intubation.

Post lunch afternoon session of the course may be planned for the interactive hands on workshops for participants at multiple workstations. Workstations (Table 1) provide an opportunity to the participants to be acquainted with different options available for airway management, from easier to the most difficult scenario, according to the Guidelines of Difficult Airway Society (DAS).

The total duration of the CME + workshop may be from 0900 hours to 1800 hours in the evening (Total content hours of 8 hours + 1 hour break) in a day.

Guest Faculty:

We must aim to complete the scientific agenda with confirmed speakers. All official invites to the respective faculty members are sent 45 days before the course, so that they have ample time to prepare their talks. Faculty for the course may be selected from the host institution or other reputed national institutions. Some visiting international faculty can be an advantage.

All the faculty are reminded from time to time and are requested to strictly comply with their allotted time for the talks. To avoid lapse in the program, few potential faculty from the organizing committee itself are kept in reserve and are asked to prepare a topic to be presented in case of failure of an invited faculty to attend the event.

Announcement & Delegate Registration:

A successful academic course or workshop requires a decent number of participants. Endorsement by professional bodies can be helpful, but dissemination of an impactful poster or brochure with original content of scientific agenda with renowned speakers on all available venues is required. To get maximum participation, details of the course need to be widely circulated in nearby hospitals, medical colleges and institutions using both print and electronic media. The course is also publicized through institutional website and electronic media through e-mails and WhatsApp messenger.

The announcement posters must clearly mention essential information for the participants as given in Box 1.

Box 1: Desirable information in announcement posters

1. The host institution
2. Title of the event
3. Venue
4. Day, dates and timings
5. Course director
6. National / local faculty
7. International faculty
8. Objectives
9. Who should attend
10. CME credits
11. Course program
12. Registration details; Fee; Bank account details

13. Contact; E-mail; Line Phone number; Cell:

Budgeting & Fund Generation:

Organizing a course also requires monetary resources, for which financial planning and budgeting is vital and necessary. Financial expenses involve booking of a sufficiently spacious venue with adequate audio-visual and technical support to assist presentation, printing (study material, posters and certificates), catering (tea break, lunch with tea/coffee for participants, faculty and support staff), accommodation (for external faculty) and other miscellaneous expenses.

Funding for the course is primarily generated by the registration fee, the amount of which can be decided by the organizing committee. Industry participation may help generate additional funds. A bank account to receive the funds is mandatory, so an account is opened well in advance. You might use the available accounts of the endorsing society or the institution if possible.

Figure 1: Poster for Advanced Airway Management by PSA

Participants:

The optimum number of participants in a workshop is 20-30, to allow every participant adequate opportunity to gain hands-on experience on each practice workstation. Participants are registered on first come first served basis, however, based upon the response the number might be increased, provided that the number of faculty is also increased proportionately. A faculty to student ratio of 1:5 for hands-on workshop at each workstation should be ensured.

All registered participants are included as members in a special whatsapp messenger group for rapid access to all future information / announcements. Registered participants are also sent reminder e-mails for the course and a common helpline number is shared to provide assistance at any level.

It will be advantageous to send a brief description or a summary of every core topic included in the course to the participants, either by mail or by e-mail, with instructions to go through it at least once.

On the day of CME, participants are provided with a conference folder containing a copy of final course agenda, a pre-test form, a pen, notepad, and tea break and lunch coupons.

A post-test also needs to be served to the participants at the end of the event.

The certificates of participation should be awarded to participants only after the completion of the CME / workshop and successfully completing the post-test as per guidelines for accreditation.[6]

Accreditation:

The process of accreditation involves review and evaluation of an educational program by a designated authority, using a set of clearly defined criteria and procedures.[7] Accreditation is a must to achieve defined standards and it helps in institutional, as well as individual participants professional development.

National Medical Council or State Medical Councils or other CME regulators should be contacted to accredit the CME events and allocate credits to the healthcare professionals. In many countries it has been mandatory for all doctors

to attend CME activities by a fixed number of hours every year, failing which their license to practice might be suspended.[8]

Box 2: Outline for organizing a CME event

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1) Plan a suitable course • Relevant for the target participants
2) Make a CORE organizing team • Passionate about the course organization • Avoid teammates with ego problem • Good communication amongst team members • Seek your department cooperation
3) Dates • Announce well in advance • Avoid any clash with similar CME/holiday/any other major event • Weekends are better • Avoid extremes of weather
4) Scientific Agenda • Hot and burning topics • Invite prominent speakers (mix of youth and experience) • Thematic sessions • Define and respect time for the allotted talks • Backup speakers • Gentle reminder every week • Travel itineraries from faculty
5) Registration and Publicity • Limit seats • Flash on websites • Use electronic and print media • Posters on notice boards of medical colleges • Endorsement from professional bodies • Reminder to participants with helpline numbers. • Route map to venue to be send in advance
6) Funding and Budget • Plan your credits • Nominal registration fees • Open a bank account early for transfer of money • Limit your expenses to your credit.
7) Venue • Spacious lecture halls with Audio Visual, IT support and air conditioning with electricity backup • Open spaces for catering • Caterer selection • Adequate parking space • Workshops areas to be marked • Accommodation for guest faculty in guest house
8) Industry cooperation • Plan out the requirements needed for loan from industry • Contact best multinational companies for their products
9) Accreditation • Apply to National Medical Council or SMC's • Apply early (It requires 2-4 weeks to get accreditation) • Mention credit hours on certificates.
DAY BEFORE THE CME • Check the halls for the audiovisual settings, layout and other minute details • Layout for the workshops • Badges for the participants (Use ecofriendly paper stickers, avoid plastics) • Delegate handouts to be prepared with notepads, scientific agenda, pre-test form, pen and feedback form • Send a press release to media • Individual desk for faculty and delegate registration. • Power point presentations from the faculty to be checked.
ON THE DAY • Reach early to venue and re-check all details • Start on time as per scientific agenda • Request speakers to respect time allotted to them • Be flexible for some unforeseen last minute circumstances. • Ask caterers to prepare lunch and tea on time • Send a detailed press release to both print and electronic media • Don't forget to thank speakers, participants, support staff and technical help • Collect feedback forms
POST CME • Send gratitude through email to all invited faculty, participants and industry • Share your success story on social media (Facebook, Twitter, Linkedin and ResearchGate)

Industry Cooperation:

The role of industry participation in successful execution of academic events is important, if a suitable venue with facilities is not available free of cost. Hotel reservation is usually the biggest expenditure, but is more convenient too, when compared to utilizing an institutional hall, as a lot of effort is cut down. Local distributors and manufacturers can be approached regarding provision of required gadgets and manikins for the workstations and they might be allowed to showcase their technical advancements and their products. Short-listed companies might help by providing their respective products in the field of airway management. Endotracheal tubes, supraglottic devices, videolaryngoscopes, cricothyroidotomy sets, percutaneous tracheostomy sets and THRIVE module might be arranged from institutional resources or sought from representatives of AMBU, Smiths Medical, Karl Storz, Intersurgical, Romsons, Sonosite, Medtronic and Fisher & Paykel.

Checklist:

Every effort should be taken to finish all the pending work, a day before the course.

Even the slightest omission can be devastating in medicine.[9,10] Same is true in case of organizing a CME. Cognitive aids like checklists are shown to increase performance in healthcare when solving complex and time-critical tasks.[11] Organizing a CME is stressful and during stress, memory can be error prone.[12] We made an outline for the event to be sure that we have met all the requirements of our assignment.

Day before the CME:

It can be an anxious day, which might require a lot of hard work. Every minute details related to CME and workshop should be assessed and looked into. 2 or 3 members of the organizing team should ideally visit the venue a day before and a detailed layout for the final day should be chalked-out. The space for the faculty talks, for hands-on workstations and the scientific exhibition must be marked. The workstations for the workshop with their requirements and support

staff should be listed and made available. Industry representative could be asked for any unfulfilled requirements for the workstations.

Delegate handouts with all inclusions should be prepared and handed over to reception staff and registration desk.

Power point presentations (PPT) of the CME need to be acquired from the speakers well before the day of the event and should be uploaded on the main computer system and necessary configuration done by the technical staff preferably at least a day before.

Scientific courses usually deal with a defined group of intellectuals, but the impact of the learning can be widespread on to the community, therefore a detailed press release both in English and the local language should be made available to print and electronic media. This is an important step for health promotion in community by spreading awareness. Community participation in health offers various advantages in healthcare development including development of problem-solving skills and enhancing sustainability.[13]

THE DAY OF CME

All the efforts and preparation sums up for the final day. It is always beneficial and advisable to reach early to the venue. Registration desk should be ready before the arrival of participants and faculty. Helpline on one or two mobile numbers be activated to guide the faculty or the participants, if needed.

Registration desk should be fully equipped (computer with internet access, printer, stationary, delegate and faculty handouts, certificates etc.) with a senior clerical staff involved with registration process. There can be separate desk for both participants and faculty depending upon the expected number of participants. Also a separate desk for spot registration can be made.

Tea break and lunch should be on time because it can delay the scientific schedule. So caterers should be briefed earlier.

Presentations / talks should be loaded and check run should be performed before each session. Pointers, microphones and lighting of the hall should be meticulous.

A timer should be displayed prominently for the speaker and audiences, so that there is no confusion about the session timings.

Faculty should be briefed to respect the allotted time. There is always a possibility of questions and the discussion for a particular talk surpassing the allotted time, therefore a gentle request of continuing discussion during tea breaks and lunch can be offered.

Lastly, it may not be uncommon to have some unforeseen hindrances to the scientific schedule, so be a bit flexible to amend the agenda.

POST CME

Just as the famous English proverb says, *All's well that ends well*, it will be heartening to say few words of gratitude to all the participants, faculty, support staff and the industry for all their efforts to make the event successful. Also, collect Post-Test forms and feedbacks from the participants, which can later be used as tools to improve the next event.

A detailed report of the course or CME to both print, social media and electronic media should be sent after the conclusion of the program. Especially, social media has now become an integral part of our life and we can use this platform to spread awareness, build professional network, provide health information to the community and improve health outcomes.[14,15]

CONCLUSION

Organizing a CME/ workshop or any professional course can be taxing and requires a lot of commitment, but it is a gratifying and learning experience and brings a sense of great achievement. It provides opportunities for networking and to be a part of your professional community. Knowledge imparted during the CME can also bring about wide spread change in the existing health practices. You need to pay full attention to even the minutest detail, right from conceiving the idea to successful culmination of the activity.

Conflict of interest: None

Authors' contribution:

TT: Concept, manuscript editing

PRS: Editing

TT: Literature search

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