



# WJMER

**World Journal of Medical Education and Research**

An Official Publication of the Education and Research Division of Doctors Academy

Bridging the Gap Using ENT Emergency Clinics

How We Devised and Implemented Foundation Trainee Led Audit Poster Days - an Engaging and Popular Means of Teaching Audit Process

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Parent-Child Resilience in Cleft Lip or/and Palate Condition: A Review

Mallet Finger Injuries - A Review Article

Perceptions of the Effectiveness of Mentoring Programme among Medical Students In a Private University in Selangor, Malaysia

Endoscopic Retrieval of Impacted Gallstone in the Rectum

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## Introduction

The World Journal of Medical Education and Research (WJMER) (ISSN 2052-1715) is an online publication of the Doctors Academy Group of Educational Establishments. Published on a quarterly basis, the aim of the journal is to promote academia and research amongst members of the multi-disciplinary healthcare team including doctors, dentists, scientists, and students of these specialties from around the world. The principal objective of this journal is to encourage the aforementioned, from developing countries in particular, to publish their work. The journal intends to promote the healthy transfer of knowledge, opinions and expertise between those who have the benefit of cutting edge technology and those who need to innovate within their resource constraints. It is our hope that this will help to develop medical knowledge and to provide optimal clinical care in different settings. We envisage an incessant stream of information flowing along the channels that WJMER will create and that a surfeit of ideas will be gleaned from this process. We look forward to sharing these experiences with our readers in our editions. We are honoured to welcome you to WJMER.

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## **WELCOME**

It is with great pleasure that we bring you the eleventh edition of the World Journal of Medical Education and Research (WJMER). This edition encompasses a variety of innovative and enlightening articles from around the world which explore noteworthy areas of research.

The opening article by Wong highlights the role of Ear, Nose and Throat (ENT) clinics in the knowledge acquisition of new doctors. The article discusses the way in which these clinics provide ENT doctors with the invaluable opportunity to develop their practical and clinical skills.

Evans, Syed and Gawne offer an insight into their initiative of organising an Audit Poster Day Conference. It was hoped that the Conference would present a more engaging means of teaching which would not only encourage Foundation Year Doctors to undertake a project but also increase their understanding. To this end, the delegates were prompted to enhance their knowledge of audit through participation.

In the third article of this edition, Persaud-Sharma and Anderson argue that, despite sub-internships being considered a vital aspect of medical education and training, few students understand the way in which they are perceived by the faculty with whom they are interacting. This article thus provides a faculty-orientated perspective of the expectations of students during clinical training at various stages of their medical education.

K'Odhiambo implements logical analysis to investigate the practice of male circumcision among the Luo community of Kenya while, in the following article, Juneja and colleagues demonstrate the factors that promote a positive attitude and adaptation, or resilience, in both children with cleft conditions and their parents.

Bhavsar and Knight review the epidemiology, anatomy, classification, clinical presentation and treatment of mallet finger injury. Following this, Maher and colleagues analyse how effective medical students find mentoring programmes.

The final article by Alchoikani, Comez and Zammit uses a patient case-study to discuss the endoscopic retrieval of impacted gallstones in the rectum. They argue that impacted rectal gallstones can be removed endoscopically, which avoids the need for an anaesthetic.

We sincerely hope that you find each article in this edition informative, interesting and enjoyable to read.

With very best wishes,

**Ms Karen Au-Yeung**  
Editor

**Ms Rebecca Williams**  
Associate Editor

**Professor Stuart Enoch**  
Editor-in-Chief

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## Bridging the Gap Using ENT Emergency Clinics

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**WJMER, Vol 11: Issue 1,  
2016**

### Abstract

The undergraduate teaching of Ear, Nose and Throat (ENT) in UK medical schools is limited. The ENT emergency clinics provide an invaluable learning environment for ENT doctors to develop their practical and clinical skills due to the broad range of common ENT conditions presented there and the availability of senior colleagues to teach at the clinics. With the right motivation and commitment to learn, ENT emergency clinics can be utilized effectively to bridge the gap in knowledge and skills of the new ENT doctors in the specialty.

### Key Words

ENT, Emergency clinic, Learning, VARK, Teaching method, Assessment.

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### Background:

The undergraduate teaching of Ear, Nose and Throat (ENT) in UK medical schools is limited,<sup>1</sup> causing the newly qualified doctors feeling less confident with their ENT history-taking, examination and management skills.<sup>2</sup> Recent study in 2012<sup>3</sup> continue to show insufficient ENT undergraduate teaching where ENT placements were only available to 53% of students with a mean mandatory placement of 8 days.

This means a very steep learning curve is required of the ENT doctors, who are mainly senior house officers (SHOs) such as second year foundation doctors, general practitioner (GP) trainees or core surgical trainees, from an early stage of starting the job. They will need to be able to get up to speed with the practical skills required for this specialty on top of gaining clinical knowledge, which can be very stressful.

A significant part of the workload of ENT SHOs involves running and managing the ENT emergency clinics with the help of supervising registrars. These are clinics that run regularly, which allow patients with acute ear, nose and throat problems to be assessed and managed promptly by an ENT doctor, usually with short notice.

These clinics provide an invaluable and essential learning environment for ENT doctors and are ideal in helping them develop their practical and clinical skills, thus preparing them for the job quickly.

### Maximising Learning in Emergency Clinics:

Ericsson *et al*<sup>4</sup> explained that innate talent does not play a significant role in accounting for the difference between expert and non-expert performances in tasks. Instead, non-expert individuals can improve their performance and skills to the expert level when there is motivation and commitment to deliberate practice, with good training environment and supportive mentors.<sup>4</sup>

### Motivation and Commitment to Deliberate Practice:

The emergency clinic is an ideal place for repetitive exercises because many patients would require the same set of practical skills from their doctors in the management of their conditions. However, for new doctors to improve their performances, they need to be motivated to learn in the first place by attending the clinics regularly, to allow themselves maximum opportunities to practice their skills and learn to manage a condition by repetition. There is usually an emergency clinic book containing a list of patients with their presenting complaints in advance. This serves as a good source of information for those who want to improve a specific area of knowledge or skill, by making sure they are present at the clinic during that particular appointment time slot.

It is also crucial for the doctors to identify and recognize their own learning styles to allow them to perceive, process, store and recall what they are attempting to learn more efficiently and effectively.<sup>5</sup>

The VARK learning model<sup>6</sup> suggested four modality preferences for learning information, represented by the acronym VARK itself; Visual, Auditory, Read/write and Kinesthetic.

By understanding their preferences in learning, they can use the appropriate resources or strategies to further reinforce their learning experience. For example,<sup>6</sup> visual learners should search for diagrams and flow charts or create a new mind map that will highlight the information they wish to learn. The auditory learners should organize discussions with a senior colleague or join a web-chat forum where the group members discuss a particular topic. On the other hand, the Read/write learners should read from journals, PowerPoint presentations and articles from the internet to improve their understanding on a subject. Lastly, kinesthetic learners should ask for demonstrations or watch videos of certain procedures and look for opportunities to perform what they have learnt. Having said that, it is common to be multimodal (MM)<sup>6</sup> where more than one mode of learning is preferred.

Therefore, for effective learning to take place, new doctors have to be keen to learn and improve their knowledge using their preferred mode of learning.

#### Good Training Environment:

The spectrum of disease seen in ENT emergency clinics is very broad with more than 70% of patients not being seen by another doctor before.<sup>7</sup> Examples of ENT conditions commonly seen in the emergency clinics and the practical skills required for examination and management of patients are summarized in **Table 1**.

These clinics allow plenty of opportunities for new doctors to learn about the specialty. ENT doctors should therefore take full advantage of this optimal training environment to improve their knowledge and to learn new practical skills required for the job.

#### Supportive mentors:

Having supportive mentors will help improve learners' performance and skills.<sup>4</sup> Registrars play an important role as the mentors for SHOs in emergency clinics, teaching and assessing their competencies and performances.

George and Doto<sup>8</sup> suggested a simple five-step method for teaching clinical skills, which can be used by registrars when teaching in the emergency clinics.

**Table 2** summarizes the key elements of the five-step method described by George and Doto.<sup>8</sup>

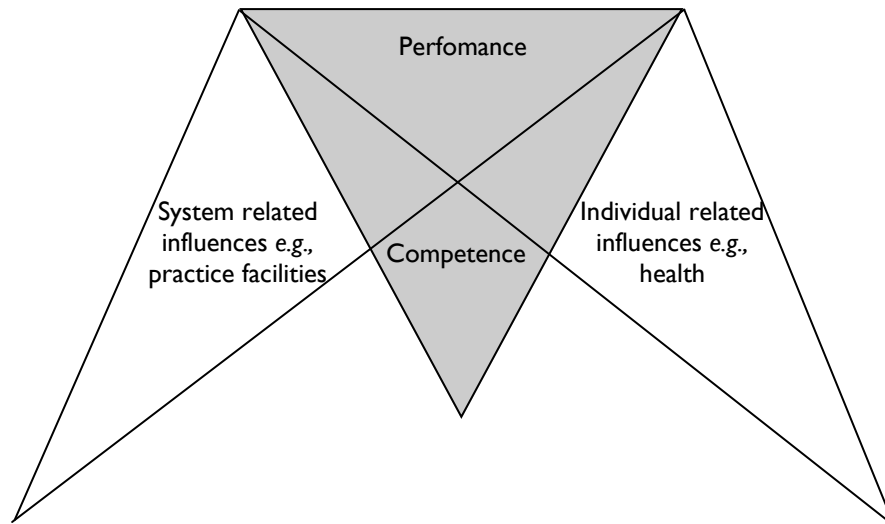
<b>STEP 1:</b> Understanding of why the skill is needed and how it is used in the delivery of care to motivate learning
<b>STEP 2:</b> Silent demonstration of the skill to give a mental picture of what the skill looks like when it is being done correctly
<b>STEP 3:</b> Procedure repeated with detailed description of each steps allowing time for questions
<b>STEP 4:</b> Students talk through the skill to help them commit the process to memory
<b>STEP 5:</b> Students perform the skill while being observed followed by feedbacks

**Table 2:** Five-step method for teaching clinical skills adapted from George and Doto.<sup>8</sup>

Rethans *et al*<sup>9</sup> derived the Cambridge Model as an extension of Miller's Triangle and identifies performance (what doctors do in actual professional practice) as a product of competence (what doctors can do in controlled representations of professional practice) combined with the influences of factors related to the individual (e.g., physical and mental health, relationships) and factors related to the system (e.g., facilities, practice time, accessibility to other health professionals).

	Examples of common acute ENT problem seen in emergency clinic	Examination or diagnostic skills required	Management skills required
<b>Ear</b>	Otitis externa, ear wax, ear foreign body, ear trauma, vertigo	Microscopy, tuning fork, otoscopy	Microsuction, removal of wax and foreign body under microscope
<b>Nose</b>	Epistaxis, nose trauma, nose foreign body	Anterior rhinoscopy	Cauterisation of septum, removal of foreign body, manipulation of nasal fracture, removal of nasal splint
<b>Throat</b>	Sore throat, hoarse voice	Flexible nasendoscopy	Removal of skin clips and sutures

**Table 1:** Examples of common ENT conditions seen in emergency clinics and relevant skills required



**Figure 1:** Cambridge Model, taken with permission from Rethans *et al*<sup>9</sup>

**Figure 1** shows the Cambridge Model, illustrating the importance of considering other factors when assessing doctors' performance. Understanding this model is important for the supervising registrars when assessing SHOs' performance in the clinic.

#### **Conclusion:**

ENT emergency clinics provide an ideal environment to bridge the gap in knowledge and skills of new doctors who need to play catch-up in this specialty quickly. It is crucial for both the learners and teachers to understand effective ways to utilize these clinics to their full potential.

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## How We Devised and Implemented Foundation Trainee Led Audit Poster Days - an Engaging and Popular Means of Teaching Audit Process

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**WJMER, Vol 11: Issue 1, 2016**

### Abstract

We identified that there were limited opportunities for Foundation Doctors to present audit and quality improvement projects within the trust. An 'audit poster day' was established to encourage participation and teach audit. The entire organisation of the event was transferred to Foundation trainees who organised the selection, logistics and judging criteria for the day. This not only encouraged participation amongst the foundation trainees but helped develop leadership and organisational skills. This was supported by feedback from Visual analogue scale (VAS) scores given by foundation trainees for whom the event constituted a teaching session. The evidence supported this favourable alternative to didactic teaching.

### Key Words

Audit; Teaching; Juniors; Poster; Conference

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### Introduction

An understanding of the clinical audit process is an essential skill for any Doctor in clinical practice. In the UK it is expected that each Foundation Doctor (those in the first –FY1- or second –FY2- year of training following graduation) 'manages, analyses and presents at least one quality improvement project and uses the results to improve patient care' at least once during this time<sup>1</sup>. The importance of audit is also acknowledged by the UK regulatory body the General Medical Council<sup>2</sup>.

Traditionally in our trust foundation programme the teaching of audit has focussed on lecture based teaching methods. We as authors felt that this was not sufficient and at odds with the programme specification which encourages a more active role.

We aimed to devise a more engaging means of teaching this which would not only encourage Foundation Doctors to undertake a project but help build understanding also. To do this we organised an Audit poster day conference which took part during the FY2 Doctors' weekly teaching afternoon and constituted their teaching session for that week. Through this we created a form of 'Discovery learning' whereby the trainees learnt about audit through participation.

The concept of Discovery learning was developed by the educational psychologists Seymour Papert,

Jean Piaget but primarily Jerome Bruner<sup>3,4,5,6</sup> throughout the 1960s. It is often described as a constructivist or inquiry based learning form. Advocates of the technique claim that it creates a deeper understanding of subject matter as learners work through simulations, exercises or scenarios.

### Method

In its first year the conference was led by a UK Core Surgical Trainee year one (core trainees are in the first two years of vocational training after foundation year completion) in association with a foundation programme director (FPD) – a Senior Doctor who is responsible for the training of foundation trainees within a Trust. It was held on the afternoon of the 19<sup>th</sup> November 2013 to intentionally appeal to Foundation trainees who may have been applying to vocational training programmes the following month and were looking to supplement their CV.

Advertisements for the event were displayed in the preceding September 2013 appealing for posters which presented audits or similar quality improvement projects which had in some way aimed to improve patient care quality. Applicants were invited to submit a 200 word abstract before the 18<sup>th</sup> October 2013.

Advertisements were sent to all foundation trainees within the host trust and neighbouring three trusts



and distributed around the ELHT hospitals. Additional advertisements were sent to Core trainees in medicine and surgery. In total thirty six abstracts were received and accepted with only two being excluded (one case report and one in an unacceptable format). Five projects which were deemed to be of particular interest were selected by the two FPDs and invited to give an oral presentation also.

Two weeks prior to event the two conference leads spoke to the foundation year one Doctors as a group at the beginning of their weekly teaching sessions. Here we appealed for volunteers to help with the running of the day and made it clear that the volunteers would be expected to run the event again, by themselves the following year.

The poster day itself began at 13:00 with a half hour talk from the FPD to the foundation doctors on the elements of a high quality audit projects and critical appraisal. Registration was undertaken at 13:30. At 14:00 poster viewing and formal judging commenced for one hour. Judging was performed by six Consultants from the four participating trusts ( one Radiologist, one Urologist, two Physicians, one Emergency Medicine Physician and one Paediatrician). Each Judge was allocated six posters to mark and given a structured scoring template which had been designed by the trust audit department. This incorporated six scoring categories: Aims, methods, results, conclusions, innovations and overall presentation. The posters which had been allocated the highest individual score by each judge were discussed.

The judges then viewed the six highest scoring posters together and agreed an overall winner. Attendees were then invited to hear five minute presentations from the five invited projects with

one minute of audience questions after each. Judging of the oral presentations was performed by the two FPDs (one from the host trust and one from a neighbouring trust). There was no marking template for this as judges were able to make a direct comparison on the basis of the following criteria:

- Presenting style
- Design of Audit
- How convincing the presenter is that their audit will improve care quality
- Ability of presenter to succinctly explain the design and findings of the audit
- Response to questions from the audience

At the end of the afternoon attendees and participants were thanked and winners of both formats announced. Winners, participants and judges were issued with certificates.

### Results

We repeated the event one year later but removed all active input from non-foundation Doctors. One of the FY2 Doctors who had helped with the running of the day in its first year agreed to lead the organisation and recruited two fellow FY2s. It was hoped by doing this we would encourage the development of leadership skills also. The format of the conference was exactly the same except organisation, promotion, venue set-up and compering on the day was all undertaken by the now FY2 Doctors. Participant numbers had increased slightly also with forty posters presented on the day.

Questionnaires were issued to the remaining FY2s for whom the conference had constituted a teaching session. They were asked to rate how much they agreed with a number of statements by marking a Visual analogue scale<sup>7,8</sup> (results displayed below –

<i>Statement</i>	<i>Mean VAS score 0 (Disagree) – 10 (Agree)</i>	<i>Standard Deviation</i>	<i>Number of responses</i>
<b>I enjoyed the poster day</b>	9.39	1.16	23
<b>I feel the poster day is a good idea</b>	9.48	0.898	23
<b>The poster day helped increase my understanding of the audit process</b>	8.61	2.35	23
<b>The day has encouraged me to do an audit in future</b>	8.87	2.22	23
<b>I prefer the day as a means of learning about audit compared to conventional lectures.</b>	8.61	2.44	23
<b>Total =</b>			<b>23</b>

*Table 1:* Table to show the mean average ratings for various statements regarding the poster day event.

**Table 1).**

The trainees responded very positively to all statements regarding the day. The statement 'I feel the poster day is a good idea' with a mean of 9.48 had the highest VAS score of the five. The second highest score was for the statement 'I enjoyed the poster day' which averaged 9.39. The 3 main aims of the day were to encourage participation and understanding of audit and offer an alternative to didactic audit teaching. The trainees responded very positively to the three statements addressing these points. The statement 'The poster day helped increase my understanding of the audit process' averaged 8.61. 'The day has encouraged me to do an audit in future' was generally agreed with and averaged 8.87. 'I prefer the day as a means of learning about audit compared to conventional lectures' also averaged 8.61.

**Conclusion**

We found that the organisation of an academic audit poster conference could feasibly be organised and run by foundation doctors after establishment in its first year by our trusts foundation department. The number of participants was even improved upon from 36 to 40 posters after the organisation of the event was transferred. The feedback we received suggested that the trainees enjoyed the day preferring it to didactic teaching. Evidence here would also suggest that trainees were encouraged to undertake audit projects.

We felt an important consideration during the process is that trainees receive some qualified

guidance and feedback. We chose to give a 1 hour teaching session on how to critically appraise audit presentations immediately prior to the event and Judges gave direct feedback to participants on the individual projects however those looking to reproduce a similar event may wish to offer further structured teaching to dissuade poor practice.

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## Defining the Role of a Medical Student during a Sub-Internship

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### Abstract

Sub-internships are generally regarded as being highly valued learning experiences and opportunities for matching at a desired residency program. It provides medical students with the opportunity to demonstrate their knowledge and skillset honed throughout their years of medical education. However, many novice students do not have clear guidelines as to how they are perceived by faculty and administration while they are rotating during an observership, and clinical year core rotations. This brief manuscript aims to provide students with a faculty oriented perspective as to the general expectations of students during clinical training at various stages of their medical education.

### Key Words

Sub-Internship; Medical Student; Medical Education; Clinical Rotation; Electives

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### Introduction:

In a well-written article published by Bridget O'Brien *et al.* in 2012<sup>1</sup>, surveyed residents reflected upon their 4<sup>th</sup> year of medical school and the completion of sub-internships (Sub-I's). The majority of the resident's surveyed agreed that Sub-I's are a valuable experience attributable to the level of responsibility and exposure to the role of an intern (N=17)<sup>1</sup>. In a quoted reference from some of the residents

*"...The internal medicine sub-I is one of the very few places... that you actually have the responsibilities of a sub-intern, carrying your own patients, reporting to the resident and not the intern, working the hours of an intern where nothing is really padded for you ... I think that really gives you experience that you need for residency."* [PSY1]

*"I got to the point where I thought, towards the end of my sub-I, that, yeah, I could be an intern. It's not as scary any more. So I think it did give me a mental preparation, as well as the skill-set and knowledge base, to feel that I could become an intern."* [IM7]..."

While many former medical graduates agree that Sub-I's are important in the training of being a physician and obtaining a residency, many medical students do not have a clear understanding of how their performance is evaluated. Generally, the common understanding is that the role of a medical

student during a sub-I is to take on the role of an intern and work effectively with the hospital team in managing patient care.

To begin, Sub-I's are very different from a student observership, despite many students treating them the same. An observership is more of a precursor for a student's education in a subject, in this case a particular medical specialty. During an observership, the medical student is responsible for learning through observation and inquiry about their field of interest. It is an active process in the sense that the learning is entirely student driven, while also being a passive process because there is no direct scrutiny for a student's evaluation. While a student is completing an observership period, it is recommended that the scope of observation not be limited to techniques/procedures or patient interviews/assessments, but should be widened to include the understanding of the workings of a department and the social behaviors of all levels of personnel within the workplace including nurses, administration, residents, faculty, physician assistants/nurse practitioners, and technicians. The main reason for such widened observation is attributable to the social niche created by all of these members to maintain functionality. As a future member of such an environment, understanding such interprofessional relationships are vital to future success. Observerships can be completed by students at all levels of medical education, and best

serve those needing an introduction to a discipline.

On the other hand, a sub-internship (Sub-I) is more appropriate for a senior medical student. During this period, which is typically 1-month long, students have the opportunity to demonstrate the skills they honed during medical school and learn about more advanced concepts pertinent to their selected field. A comparable analogue to Sub-I's include the 3<sup>rd</sup> year clinical clerkship, where medical students undertake some clinical responsibilities. Likewise, in both Sub-I's and clinical clerkships students are evaluated to their performance and their interprofessional collaboration efforts are substantially highlighted. Thus, one can conclude if students learn the art of interprofessional collaboration early, they are taking the right steps towards successful Sub-I's and the benefits of doing so which includes but not limited to networking within their desired field, gaining clinical knowledge, and becoming a more polished physician-leader.

Additionally, like third year clinical clerkships, students during a Sub-I should focus on absorbing as much information as possible while simultaneously demonstrating to faculty, residents, and staff that they are capable and worthy of being included in the environmental niche to not only maintain functionality, but to actually to make systematic improvements. As a caveat, a student is not expected to revamp the system, but rather they can focus on making small meaningful changes to help make the system run smoother. Amongst many noteworthy efforts, those noted by resident's and staff to be memorable include staying after hours to help the chief resident, pre-rounding on patients with residents, and helping with case presentations if given the opportunity. At the end of the sub-I, students receive a personal evaluation by the faculty, and they have a better perspective on

whether that student fits within their system or not. A common misunderstanding that auditioning medical students have is that brown-nosing faculty is necessary to improve the chance of obtaining a position. However, some faculty are particularly sensitive to detecting these intentions by students and such behavior may potentially diminish their chances of obtaining a positive evaluation, that has a significant impact on the student's chances to land a residency position in the field and perhaps at the rotating institution. Rather than spending a substantial amount of time with faculty, medical students should actively work with residents to be an integral member of the team, and practice effective and professional communication with nurses, staff, and patients because the observed interaction and feedback received from these individuals significantly impact a student's chance of obtaining a positive evaluation which is vital to their future career.

In conclusion, observerships function as an introduction to a field pursued purely by the interest of a student; while a Sub-I is more like a third year clinical clerkship which is more appropriate for a senior student and can be likened to a 1-month job interview. All three roles have an important role in the development of a student's professionalism and education.

#### **Conflict of interest:**

The authors declare that they have no conflict of interest.

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# Education Curriculum of Circumcising Males to Reduce the Spread of HIV/Aids in a Non-circumcising Community: Logical Analysis of the Practice among the Luo of Kenya

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## Abstract

In a non-circumcising community like the Luo of Kenya, to promote non-therapeutic mass circumcision of the males in order to stem the spread of HIV/Aids without using a multidisciplinary approved education curriculum is disastrous. Education is premised on knowledge and understanding whose discourse considers pros and cons of a phenomenon. The paper uses philosophical method of logical analysis, which is a second order research technique, by delving in relevant educational questions that need to be addressed by promoters of circumcision of the males among the Luo of Kenya. The analysis reveals that the practice of circumcision among the Luo, which is termed voluntary medical male circumcision (VMMC), disregards education and hence it is based on a false premise whose effects are ignominious to human sexuality. The circumcision is not voluntary but coerced since people cannot volunteer on what they are not educated about. It is recommended that combating HIV/Aids is to be pegged on changing behaviour but not changing the human anatomy. Issues that lead to non-therapeutic tampering with human anatomy are not the jurisdiction of medical profession but a multidisciplinary one that require approved curriculum.

## Key Words

Circumcision; Curriculum; Education; Philosophical analysis; Multidisciplinary

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## Introduction

Philosophical analysis is a second order research technique that uses the already available data to discern fundamental knowledge acquisition. The focus is on voluntary medical male circumcision (VMMC) provided to the Luo of Kenya by medical personnel.

Tierney<sup>1</sup> explains that circumcision comes from Latin word, *circumcisio*, (Greek = peritome), meaning the removal of the foreskin or prepuce from the penis. It is the cutting off of the foreskin, which Collier<sup>2</sup> notes has proponents and opponents. Nelson<sup>3</sup> argues that circumcision is believed to have originated in Egypt about 2300 BCE and then spread to African tribes and to the adherents of Abrahamic religions.

Bullough and Bullough<sup>4</sup> note that in 1975 American Academy of Pediatrics opposed male circumcision and it is no longer a routine in America. Bigelow<sup>5</sup> indicates that other people may recommend male circumcision to fulfill some egoistic behaviour like "adamant father syndrome", which is the insistence of a father that his child must undergo either male

circumcision or female genital mutilation, even after a rational discussion.

Herman-Roloff *et al.*<sup>6</sup> argue that although about one quarter of men in the world is circumcised, the Luo of Kenya is one of the world's communities that do not practise circumcision. The 2009 census gives the population of Kenya as 38.6 million whereby the Luo form 11% of the population. Williams *et al.*<sup>7</sup> Show that more than 80% of Kenyan population culturally practises male circumcision. Circumcision & HIV<sup>8</sup> and Herman *et al.*<sup>6</sup> explain that the concept of circumcision was introduced to the Luos as a result of the three randomized controlled trials (RCTs) carried out in Kisumu (Kenya), Orange Farm (South Africa) and Rakai (Uganda) between 2006 and 2007. Reiss *et al.*<sup>9</sup> corroborated the RCTs results and indicated that male circumcision reduces female to male human immunodeficiency virus (HIV) transmission by 53% in Kenya, by 60% in South Africa, and 51% in Uganda but the reduction rate is usually given as 60%.

Albert *et al.*<sup>10</sup> show that as a result of the findings, voluntary medical male circumcision (VMMC) was

rolled out by Kenya in 2010. Many males have undergone circumcision in Luoland (the land occupied by the Luo community) and a general public opinion exists in Luoland that infant male circumcision should be enacted in county laws to make it mandatory. Luos predominantly live around Lake Victoria in four counties: Homa Bay, Kisumu, Migori and Siaya. There are 47 counties in Kenya.

The Kenya national strategy for VMMC<sup>11</sup> whose goal is “To reduce HIV infection among men”; its vision is, “An HIV and AIDS-free society in Kenya”, and the mission is, “To provide a framework for universal access to safe and sustainable male circumcision services” is supported by over ten organizations such as Academy for Educational Development (AED), Catholic Medical Mission Board (CMMB), Center for Disease Control and Prevention (CDC), among others.

Kilonzo & Cherono<sup>12</sup> report that that Homa Bay County is leading in new HIV cases in Kenya, followed by Kisumu, Siaya and Migori in that order and statistics from UNAIDS and WHO show that Kenya has the fourth highest number of HIV infections in the world, while South Africa is leading followed by Nigeria and then India. The first phase of voluntary medical male circumcision that covered between 2008 and 2013 realised about 700,000 males circumcised in Luoland and the second phase which covers 2014 to 2019 aims to circumcise a similar number in the community.

### Material

Moses, Bailey & Ronald<sup>13</sup> argue that circumcision protects the males from many infections and there is little scientific evidence on adverse effects on sexual, psychological, or emotional health. Collier<sup>2</sup> explains that the removal of the foreskin makes the glans penis to be dry hence not susceptible to wetness that can accommodate germs and it also reduces the surface area on which germs can thrive but there is no consensus that it prevents HIV. However, Ball<sup>1</sup>, Malone & Steinbrecher<sup>15</sup> say that the foreskin helps in procreation, protects the body from harmful bacteria and virus through the sphincter action of the preputial orifice, by producing antibacterial and antiviral proteins such as lysozyme, langerin and cytokines. Antiviral proteins boost immunity and act as a barrier to HIV.

During sexual intercourse, as noted by Circumcision international resource pages (CIRP),<sup>16</sup> Kim and Pang<sup>17</sup> Sex secrets<sup>18</sup> the gliding action of the foreskin stimulates the female partner and enhances her organism and may even make her have multiple orgasms. O'Hara<sup>19</sup> explains that the key to a woman's sexual ecstasy is the foreskin of the penis and the difference between having sex with a

circumcised male and having sex with uncircumcised male are as far apart as day and night.

Cansever<sup>20</sup> explains that circumcision performed around the phallic stage affects the child's ego strength. CIRP<sup>19</sup> argues that circumcision causes changes in infant brain and behaviour and Marshal et al.<sup>21</sup> indicate that the feeding pattern may be greatly affected. Goldman<sup>22</sup> concurs and says that circumcision is a trauma leading to low self-esteem, shame, fear, distrust and sexual anxiety, which altogether lower the bond between couples. Prescott<sup>23</sup> and Ball<sup>17</sup> stress that the removal of the foreskin removes 75% of nerve endings that are responsible for sexual pleasure resulting in men's offensive behaviour to the opposite sex and Goldman<sup>22</sup> supports the same view by saying that countries with the highest rate of circumcision exhibit abuses to women. Ball<sup>2</sup> explains that circumcised males are four times more likely to be diagnosed with erectile dysfunction than intact men.

### Education

Scheffler<sup>24</sup> describes education as the foundation on which knowledge rests and defines knowledge as justified true belief. An individual can be deliberately or falsely made to internalize wrong beliefs without considering pros and cons and this is referred to as indoctrination, which is not educative because it is one sided. The paper focuses on the educational side of this voluntary medical male circumcision in Luoland by using logical analysis that uses question and answer method. The essence is to provoke thought and rationality, which is the hallmark of education.

### Logical analysis and discussion

Logical analysis focuses on the meaning of words and issues that education curriculum can address. The phrase describing circumcision is “voluntary medical male circumcision” and issues of education are many and varied. The issues analysed are only to point out a direction for thinking about the correct interdisciplinary approach to tackle non-therapeutic circumcision.

### Word analysis

The words, “voluntary” and “medical” in the descriptive phrase are subjected to some analysis. The word voluntary means a decision taken when all the available evidence has been presented and the individual is left free to make a choice. How do you expect one who is below 18 years, which is the age of majority in Kenya, to volunteer? If their parents or guardians volunteer on their behalf, will the children respect the decisions when they are adults?

Levey<sup>25</sup> reports that a Cologne court criminalises

circumcision performed on boys for non-therapeutic reasons. According to Circinfo.org<sup>26</sup> South Africa has passed legislation making it an offence to circumcise a minor, unless for therapeutic reasons. Milos<sup>27</sup> explains that many parents taking their children for circumcision are ignorant of what they are doing and some circumcised people have joined clubs that help men to re-grow their foreskin.

The term voluntary is not meaningful because the volunteer does not undergo a comprehensive multidisciplinary education that can result in volunteering. Education requires availing all opposing and supporting information. If all information is availed, would a male person opt for circumcision? Logically, circumcision should be done on the permission of the one to be circumcised.

The other word is "medical". Why is the word inserted in the term? It is probably to show it is an operation supported by the discipline of medicine. Do promoters of VMMC in Luoland want to hide under the respected medical profession to do unethical thing? Is it the way to source funds for circumcision? Visser<sup>34</sup> attacks World Health Organisation (WHO) and condemns the indecent haste in which the WHO, under pressure from American money, has sought to enforce mass circumcision on African men following the RCTs. Circinfo.org expresses the same sentiment by questioning the rationale of giving money by Bill Gates, US and WHO for mass male circumcision in Africa.

### **Issues of educational curriculum**

Educational curriculum that contains all what to be taught about non-therapeutic male circumcision is an invaluable document. In the absence of a multidisciplinary education curriculum, promoters of circumcision in Luoland may go astray.

What inherent sexuality behaviour is in the male African conscious and subconscious mind that spreads HIV/Aids which can only be cured with circumcision? Are Africans not just like any other human beings in any part of the world who just need education to change behaviour? Visser<sup>28</sup> says RCTs were costly, ineffective, violated accepted principles of bioethics and human rights, were culturally insensitive and smacking of medical colonialism. If circumcision is good, its goodness should cut across all races. Researches that warrant non-therapeutic circumcision in Africa lack universality of knowledge.

Who are the promoters of this circumcision? They are medical personnel. Do medical personnel have the sole jurisdiction of deciding on what to be done

non-therapeutically on human beings?. Goldman<sup>22</sup> argues that expanding circumcision beyond medicine is overdue. A male to undergo non-therapeutic circumcision should ask the medical personnel: "I am not sick but why are you concerned with my welfare, yet you are supposed to deal with sick people?"

What happens when an authority has bias in favour of circumcision? What are the backgrounds of the researchers whose researches prompted circumcision in Luoland? Doctors opposing male circumcision<sup>29</sup> explain that the researcher who first hypothesised that low rates of circumcision might be responsible for the high incidence of HIV infection in Africa was Valiere Alcena in a letter to the New York Journal of Medicine in 1986 and he was a circumcision proponent. As explained by Doctors opposing male circumcision<sup>29</sup>, Robert C. Bailey, Bertran Auvert and Ronald H. Gray who led researches in Kenya, South Africa and Uganda, respectively, were circumcision proponents. Was the result of the research true knowledge? Green, McAllister, Peterson and Tavis<sup>30</sup> argue that the three RCTs were terminated early and the results might have been exaggerated hence they were based on incomplete explanations of the real-world. Why must promoters of VMMC in Luoland insist on promoting a practice that does not have worldwide support? This shows it is not based on knowledge.

Why does the male naturally have the foreskin? Do promoters of male circumcision in Luoland know the resultant psychological repercussions of circumcising men in a community where men have been intact from time immemorial? When a Luo marries, there is expectation in sexual satisfaction that goes with marriage. This has been there with the community from the beginning of their history and it forms a part of their sexuality. If a wife does not get satisfaction in sex because the husband's foreskin which should provide this satisfaction is cut off, how would she behave? Lack of sexual satisfaction can lead to family instability that will in turn affect children's education. What must be noted is that this satisfaction is embedded in the personality of a Luo and they even know the degree of sexual satisfaction before they enter marriage. It is different from other communities where circumcision is deeply ingrained in the culture and personality of individuals resulting in a completely different form of sexual satisfaction. Human sexuality is complex and issues touching it should never be rushed.

### **Conclusion**

Medical doctors have no full say on non-therapeutic issues that touch on human anatomy. Such issues draw upon all disciplines. The fact that over 80% of



the Kenyan population practise circumcision as a part of their culture does mean that the practice should be rushed to the Luo that form 11% of the county's population. The Luo as a community requires genuine education on circumcision augmented by information from the Internet and libraries so as to decide intelligently. Education should be devoid of indoctrination in which the intellect of the learner is not engaged in questioning and offering alternatives. It is generally agreed that circumcision should be carried out after proper education but this does not happen in the practice non-therapeutic male circumcision in Luoland. It is recommended that multidisciplinary approaches with an approved curriculum be used in non-therapeutic circumcision and studies be done on Luo sexuality.

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## Parent-Child Resilience in Cleft Lip or/and Palate Condition: A Review

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### Abstract

Cleft lip or/and palate is the most common cranio facial difference observed in today's times. Like any other difference from the 'norms', it is a challenge for the child as well as his/her family. Most researches have talked about the negative experiences of the parents and children suffering from the cleft condition. Gradually in the past decade, the focus has begun to shift to the positive aspects of the difference being assessed using the concept of resilience. Hence, the present article aims to organize the factors contributing to positive psychosocial adjustment and resilience in parent-child dyad experiencing the cleft condition in the form of a review. Using studies carried out in the fields of psychology and dentistry, a review has been formulated. The article brings to light the need for integrating the contributonal perspective of difference in the research and apply it in the therapeutic domains for the professionals dealing with orofacial clefts.

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### Key Words

Cleft; Psychosocial; Resilience; Parent; Child

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A difference compared to the general 'norms' is a challenging condition always. A child born with a different craniofacial condition has potential consequences for facial appearance, dental development and speech. The consequences occur because the society places excessive importance on outward appearance, making it a qualifying criterion for social acceptability.<sup>1</sup> At the same time, there are various disturbances of dentition and growth. The corresponding treatment course is complex, spanning childhood, adolescence and at times adulthood too. Thus, individuals with a craniofacial difference and their families are at a risk of facing difficulties in their psychological, social and emotional adjustment. Orofacial cleft refers to an opening in the lip or roof of the mouth caused when embryonic development gets arrested in the first trimester.<sup>2</sup> It may involve one or both sides of the lip or/and palate that is it may be unilateral or bilateral respectively. It may involve only the soft palate or both the soft and hard palate that is it may be incomplete or complete respectively. The visibility of the cleft condition apart from the internal complications results in negative self perceptions and difficulties in social interactions.

The thought processes contain fear of negative social evaluation, negative emotions of social anxiety, unfavourable self perceptions, lowered self esteem and unfavourable body image.<sup>3</sup>

One's attitudes and beliefs regarding appearance are either determined by the importance of appearance in one's life or the importance placed by the individual on appearance. For some individuals, appearance may have an effect to the point that it forms a part of their day to day life. On the other hand, for some, it may play a cardinal role in their self concept. Physical appearance as a part of body image affects the individual's self esteem with a positive body image associated with higher self esteem.<sup>4</sup> Low self esteem consequently can act as a risk factor for psychopathology according to the vulnerability model.<sup>5</sup> But at the same time some individuals born with a craniofacial condition show positive psychosocial adjustment and self perception.<sup>6</sup>

A significant risk or adversity can thus trigger a dynamic process of positive adaptation referred to as resilience.<sup>7,8</sup> Whether a person develops

resilience or not depends on social, cognitive and emotional processes within the individual and between individuals, as well as the social context.<sup>7,9</sup> A risk can be a single event or even a sequence of stressful experiences like chronic health conditions in children. Positive adjustment may occur in some domains but other developmental outcomes may be problematic.<sup>7</sup> Even Rumsey (2002)<sup>10</sup> stated that some individuals are able to find some ways of effective coping, placing their visible difference in the background. Broder (2001)<sup>11</sup> and Kapp-Simon and Gaither (2009)<sup>12</sup> have tried to incorporate the models of resilience in investigating coping in cleft conditions as an essential area needing exploration.

Still resilience as a concept in the cleft conditions is a relatively less explored area. Most researches reviewed have talked about the impact of the cleft condition on the quality of life and psychosocial adjustment separately for parents and children. The resilience aspect has been included as only a part of the research findings. Hence the present article is an attempt to present the way researchers have conceptualized resilience in children born with cleft lip and/or palate and their parents. The present review talks about the factors that promote or show the presence of resilience in parents and children with cleft conditions.

### **Decoding resilience in parents**

A diagnosis of a cleft lip and/or palate condition either antenatally or postnatally can be an unexpected outcome for an adult who at the stage of becoming a parent. The pressure on the family system may increase and disrupt the parents' ability to adapt to the novel situation<sup>13</sup> or may sometimes lead to a positive reappraisal.<sup>14,15</sup> The findings of the impact on parents by different researchers are quite varied. The factors promoting resilience in parents are listed:

**Acceptance of difference-** Strauss (2007)<sup>16</sup> showed that individuals with cleft conditions when they accept their condition are better capable of showing resilience. Parents with cleft conditions having had an experience of their own are better able to adjust to their child's cleft as they have themselves learnt to accept the feeling of being different. Cochrane and Slade (1999)<sup>17</sup> in their study on 51 adults concluded that personal appraisal of having a cleft and a different appearance influences the emotional well being. The emphasis of the medical field on the aesthetics of the outcomes of surgeries is not sufficient henceforth according to the investigators. Learning from their own experience as parents with cleft conditions themselves, has been found to be resulting in greater resilience in some adults with a cleft condition. Appreciation of positive outcomes led

the parents to feel less anxious about their children's future than parents with no such experience.<sup>6,17</sup> Successful coping with their own condition helps parents born with a cleft to feel more confident of knowing that they have already survived the process. Consequently parents develop an internal model of successful coping to draw from in case their own children have a cleft. Patel and Ross (2003)<sup>18</sup> investigated the perceptions of 20 South African adults with repaired cleft lip, cleft palate or both through an exploratory descriptive, qualitative research design. The participants of the study perceived their speech to be intelligible, not noticing the nasality problems often as per Witzel (1995).<sup>19</sup> Thus, the determination and ability to cope with adversity increases with the prior experience of the associated challenges and rewards. Parents are enabled to see the positives of the situation more referred to as the post traumatic growth.<sup>17,18</sup>

**Level of social support-** Social support is a well established factor that helps an individual to deal with a crisis more effectively. Baker *et al.* (2009)<sup>14</sup> found that less social support was associated with poorer family functioning and psychological health resulting in poor adjustment. They investigated the parental coping techniques and social support along with their adjustment levels and psychological distress. They found that parents with children born with a cleft condition reported positive outcomes from having a child with a cleft condition. Parents experienced personal growth, increased sensitivity, which henceforth formed the basis of a better psychosocial adjustment of the child. Similar findings were reported by Krueckeberg and Kapp-Simon (1993),<sup>20</sup> Campis, DeMaso and Twente (1995),<sup>21</sup> Endriga, Jordan and Speltz (2003),<sup>22</sup> Pope, Tillman and Snyder (2005).<sup>23</sup> Social support brings greater feelings of belongingness, self esteem, a more optimistic perspective and a greater sense of feeling valued. Sank, Berk and Cooper (2003)<sup>24</sup> found no differences in the social support of parents of children with a cleft condition in comparison to a no cleft group. The protective aspect of social support in managing the major turning points in one's lives has also been highlighted by King and Sanares (2003)<sup>25</sup>

**Availability of information-** Parents desire information about feeding, any treatment including surgeries or a developmental delay. Factors associated with clefting including the ones that are normal and the ones that are abnormal, the results of the child's examination including the muscle tone are also some queries of the parents.<sup>26-29</sup> A more accurate and sensitive description of the deformity in the child with reassurance from the health professionals that it was not the parental fault or the child was not in pain, gives a lot of relief to the

parents.<sup>27</sup> Dar, Winter and Tal (1974)<sup>30</sup> emphasised how essential it was for the treatment team to address the feelings of possible embarrassment that would result in parents on introducing the newborn. Questions with regards to the etiology of the deformity, duration of cranio facial care and risk for future pregnancies were the issues of concern for the parents. Pelchat *et al.* (1999)<sup>31</sup> conducted a study on 43 parents of children with cleft and 31 parents of children with down syndrome. The researchers compared the efficacy of an intervention program aiming to improve the parental adaptation to child's condition. They found parents to be reporting better adaptation when they were provided the intervention and even after follow up, the effect persisted.<sup>32</sup>

**Parental attitudes-** Parents' attitudes towards the cleft condition and their parenting style have a role to play in the dynamics of the parent and child. Researchers<sup>22,33</sup> have found factors like mothers acknowledging the stress of the situation of their child having a cleft, being with their role as parents and believing that they are able to meet the needs of the child with cleft, to be important. Ability to nurture children in a way facilitating healthy attachment during early childhood, better emotional self regulation during preschool years and lesser behavioral problems during elementary school, gets promoted. Better social skills as well as adjustment with greater self confidence in primary grades was found in children whose mothers had greater parenting confidence and less stress. A caring, nurturing parent with a socio economic status advantage according to Steele, Forehand, Armistead, Morse, Simon and Clark (1999)<sup>34</sup> are the family characteristics associated with a resilient child. Power and Shanks (1989)<sup>35</sup> consider the socialiser role models served by parents, provides children with support and structure, enhancing the ability of the child to thrive. Parent and child relationship changes with age and changing developmental demands. Pope and Ward (1997)<sup>36</sup> found better social competence of adolescents when parenting style was characterized by less worry about child's friendship and active encouragement of the efforts of the child to engage with the peers.

**Positive coping and outlook-** The way the an individual perceives and handles a problem situation influences his/her quality of life. Baker *et al.* (2009)<sup>14</sup> studied 103 British parents of children with cleft using instruments like Coping Response Inventory and Stress Related Growth Scale. They found a high degree of positive coping and optimism especially in parents whose children had more severe cleft conditions. Cognitive or problem focused strategies like discussing the needs of the child with the school staff, formulating ways to help child establish

friendships and handle teasing were some of the positive coping strategies.<sup>37</sup> Strauss (2001),<sup>38</sup> Johansson and Ringsberg (2004)<sup>39</sup> and Klein *et al* (2006)<sup>37</sup> reported some emotion focused strategies like maintaining a hopeful attitude for the future, confidence on one's own competence as a parent to be helpful as well. Parents were also able to identify the rewarding aspects of caring for a child with a cleft. Recognition of their own personal strengths, stronger relationships, appreciation of diversity, others' good intentions, tolerance, a sense of community and optimistic thoughts were the associated rewards.<sup>6,37,40</sup> The parents also report their ability to identify the strengths of the child including a determined attitude, perseverance and sociability.<sup>37</sup> Such have been the mixed findings that Eisermann (2001)<sup>6</sup> in his research found parents not wanting to get their child's cleft removed even if given the opportunity, a finding also reported by Juneja and Juneja (2014).<sup>15</sup> Baker *et al.* (2009)<sup>14</sup> in their study also found parents to be reporting positive outcomes co-occurring with negative ones. The positive impact included better understanding of their own selves and treatment of others, greater personal strength and optimism, more effective self regulation of emotions, greater sense of belongingness and religiousness. The positive effect was in line with the stress related growth reported by Schaefer and Moos (1992).<sup>41</sup> Approach oriented coping in terms of social support, problem solving, logical analysis and positive appraisal rather than avoidance oriented coping like cognitive avoidance, acceptance, alternative rewards and emotional discharge have been found to be associated with good adjustment to stressful life events.<sup>42</sup>

With regards to children suffering from an orofacial cleft, the factors facilitation adjustment and resilience are enlisted:

### **Decoding resilience in children**

**Physical characteristics of difference-** the subjective perception of the noticeability of the difference plays a major role in predicting the psychological and body image disturbance. The assessment of a detached observer or clinician does not suffice.<sup>1,43</sup> The self perception henceforth predicts the degree of depression and/or anxiety, satisfaction with appearance and the subjective experience of the child whether he/she was being teased. Feragen *et al.* (2009)<sup>1</sup> in their cross sectional study of 268 treated children in the 10 year old age group, born from 1992 to 1997 investigated the self reported social experience and psychosocial resilience of the children born with a cleft. By the analysis of responses on the some standardized questionnaires, they found that cleft visibility was not associated with a greater level of distress. No gender differences too with regards to resilience

were observed. Lower reported teasing by children could also be attributed to the child's self perceptions about the other people's reactions, which might be colored by the psychological deficits or assets of the children.<sup>44</sup> There also could be external factors that buffer the interpretation of the potentially negative experiences in social interactions.<sup>45</sup> A secure child interprets teasing as simple question or curiosity making attribution process important in interpreting social encounters.<sup>46</sup> In their review of understanding the adjustment process to acquired or congenital disfiguring conditions, they emphasized the way people with difference interpreted their selves. Self interpretation was found to be based on underlying cognitive self schemas and the social interaction contexts. Moss and Carr (2004)<sup>47</sup> and Rumsey and Harcourt (2005)<sup>48</sup> state that resilient children place less importance on others' evaluation of their appearance, facilitating better adjustment. The resilient children might accept themselves the way they are or may play down the importance attached to a visible difference in their facial appearance. The acceptance enables them to keep their own self perceptions untouched. They remain protected henceforth from the stares and opinions of other people. At the same time, resilient children and parents might reflect more about the consequences and meaning of appearance in life.<sup>49</sup>

**Temperament-** Attributes of personality act as mediating factors that enhance or inhibit the adjustment of an individual to an illness.<sup>50,51</sup> A central quality of an individual is temperament.<sup>52</sup> A more even tempered child who tolerates surgeries with less distress is less likely to be disturbed by questions about the scarring from the cleft. The easy going positive natured children hence are less likely to be teased by their peers or view teasing as a problem in other children.<sup>53</sup> Endriga et al. (2003)<sup>22</sup> studied the aspect of emotion self regulation and its relationship to future adjustment in 83 five year old children with cleft conditions and a control group. They found the cleft group to be displaying lesser disappointment than children in comparison group. The lower levels of disappointment were predicted to be acting as a protective factor for children with clefts. The effect of early stress on development acted as a buffer restricting behavioral and emotional problems in future. Kapp-Simon (2006)<sup>54</sup> talked about the characteristics intrinsic to the child like temperament and intelligence to be contributing to the global well being of the child suffering from the cleft.

**Social acceptance-** The social reactions influence an individual's view about the self and the world to a certain extent. Researchers<sup>55-58</sup> found children with cleft conditions having an above average self

concept compared with test norms or at least lying in the average range. It was attributed to them having many friends to play than wanting to play alone as expected due to avoidance and fear of embarrassment of their physical appearance. Thus peer acceptance resulted in children having average or above average self perception. Maternal acceptance as well as maternal teaching during parent-child interactions resulted in a healthy and functional global self concept. Adolescents rely on their families to compensate for the lack of peer relationships. Healthy parent-child relationships become essential to the growing personality of the adolescent than the overprotectiveness of the parents. Support from parents buffers the child's potentially negative experiences with the social world.<sup>59,37</sup> If the parents were able to handle their difficulties, the adolescents began to perceive themselves as more understanding of others.<sup>60</sup> The children with parental support do not integrate the negative social reaction of people into their own self perception. The development of an identity of being negatively different is therefore avoided. The positive affectivity in the social support protects against the negative impact of negative emotional experiences too.<sup>61</sup> Emmons and McCullough (2003)<sup>62</sup> found that a grateful response to life circumstances was an adaptive psychological technique in which everyday experiences are interpreted positively. Although youth may not have learned the required coping skill to have a positive sense of self, they might not have achieved the level of maturity to report that the facial difference has helped them, resilience nevertheless was seen in the adolescents. Feelings of closeness and intimacy provided by friendships results in feelings of being socially accepted, lowering the emotional distress. The trust, approval and reciprocity characterizing friendship makes the individual feel more attractive and protects against emotional distress.<sup>63</sup>

**Social Skills-** The skills of an individual to maintain interpersonal relationships determines the social life of an individual. Kapp-Simon, Simon and Kristovich (1992)<sup>64</sup> studied 45 young adolescents with cranio facial anomalies to examine the relationships between their self perception, social skills, overall adjustment and social inhibition. A higher level of adjustment was seen in children who displayed better social skills and social behaviors. The child's own feelings about their appearance, perception of school performance or even their own sense of self worth were not the only determinants. Eiserman (2001)<sup>6</sup> in a pilot study on 11 parents of children and 11 affected adults with cranio facial differences, using a qualitative and quantitative methodology, asked the participants to reflect on their experiences. He found positive outcomes with regards to the communication skills, service to

others, observational skills, inner strength, abilities to question the society, a valued social circle and perceptions of being normal because of the difference. The findings were explained in terms of an unusual attribute believed to be absent in the so called 'normal' population, which is hence a positive and functional aspect. Half of the participants did not even wish to eliminate the experience of the facial difference if given an option. Strauss *et al.* (2007)<sup>16</sup> also concluded the significance of social skills while studying stigma experiences of adolescents with congenital and acquired facial differences.

Apart from the factors discussed, extrafamilial factors like enrolling in prosocial organizations, effective schools, supportive teachers to provide instructions and attachment with prosocial adults like religious leaders are found to be associated with resiliency as well.<sup>11</sup>

### Conclusion

Although the review is limited by the research studies available to the authors, it tries to coherently present factors promoting positive psychosocial adjustment and resilience in both parents and children at one place. Integrating perspectives from different fields, it emphasizes the need to broaden the research horizons and consider the so called disability as a difference that has a uniqueness of its own.

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## Mallet Finger Injuries - A Review Article

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### Abstract

The aim of this article is to review the epidemiology, anatomy, classification, clinical presentation and treatment of the mallet finger injury, which is characterized by a flexion deformity of the distal interphalangeal joints. Multiple treatment options are available in the management of mallet finger injuries, however the aim is always for restoration of tendon continuity and return to function.

Conservative management is generally regarded as the mainstay of treatment, and should be considered as the gold standard for acute, closed mallet finger injuries with articular involvement of less than 30%, and in the absence of phalangeal subluxation. Surgery is indicated in open injuries, and in cases in which conservative management has failed, however potential complications must be kept in mind when coming to this decision.

### Key Words

Mallet finger; Trauma; Anatomy; Surgery; Hand

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### Background

Mallet finger is a term used to describe a deformity of the distal interphalangeal joint (DIPJ), and is caused by either disruption or complete rupture of the extensor mechanism from the base of the distal phalanx, leading to a flexion deformity of the DIPJ. They can be split into bony mallet finger injuries, or tendinous mallet finger injuries. Classically it is seen as a result of sporting injury, whereby the tip of the finger is struck by a ball, resulting in sudden, forced DIPJ flexion. Less commonly it occurs after a laceration to the dorsum of the DIPJ<sup>1</sup>.

Patients can delay their presentation, as they may still be able to use the hand for their daily activities, however all individuals with finger injuries should receive a systematic evaluation. Management of these injuries is usually conservative, and good results can be seen with early treatment, however permanent disability may occur with a lack of treatment.

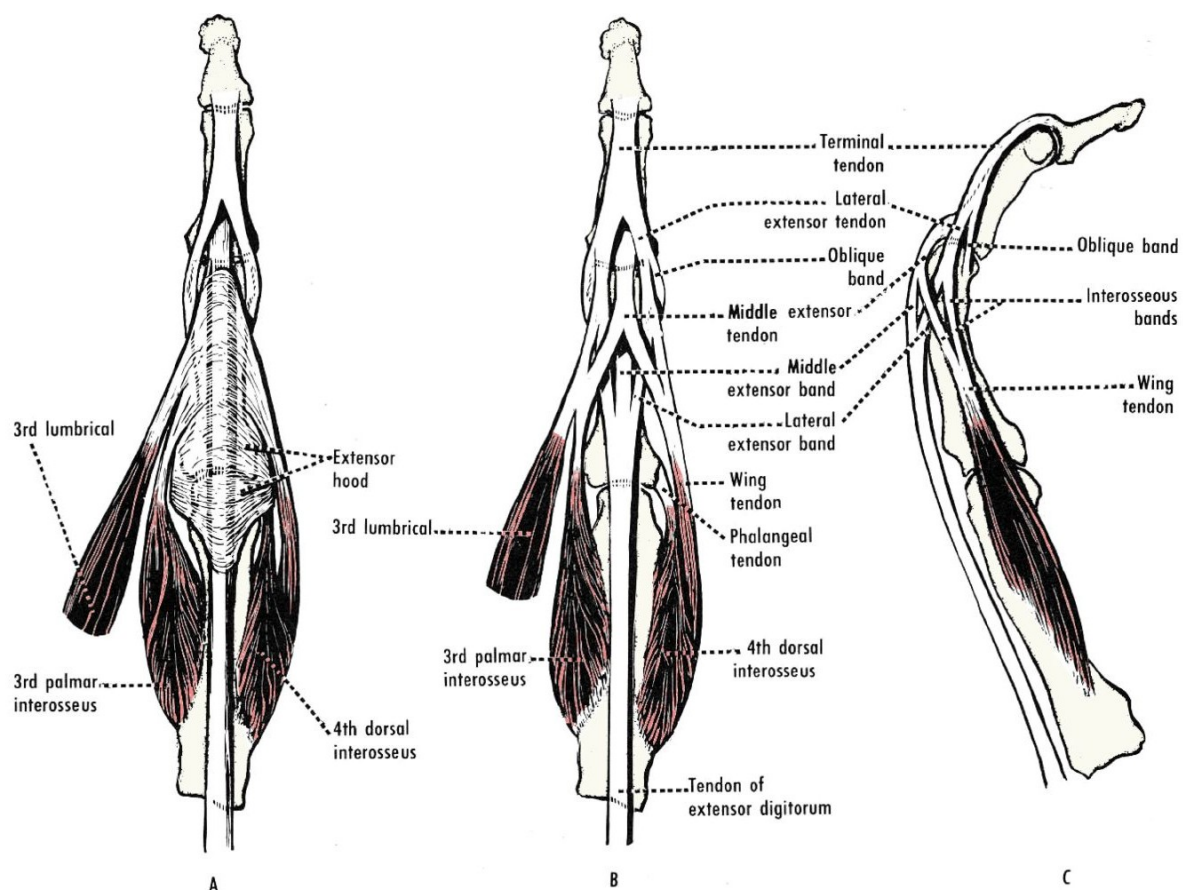
### Epidemiology

Mallet finger is a relatively uncommon injury, with a documented incidence of 9.9/100,000<sup>2</sup>. In a study of 260 patients with soft-tissue mallet finger, 60% of these injuries were in males, with a mean age of

39.9, whilst in females the mean age was 48.4. The high incidence in males continues until the sixth decade, whereas in females the incidence is lower in the second and third decades, and then rises to a peak in the sixth decade, equalling the peak in males<sup>2</sup>. Following this, the incidence in both sexes falls. Regarding bony mallet fingers, Webhé and Schneider found the mean age in males to be 34 years, and 41 years in females. They also found 74% of injuries to involve the dominant hand, and 90% involving the ulnar three digits<sup>3</sup>.

### Anatomy

Extension of the digits is performed mainly by extensor digitorum communis, extensor indicis (to the index finger), and extensor digiti minimi (to the little finger). Distally, the extensor mechanism at the finger consists of a thin, flat tendon, measuring 4-5mm wide and 1mm thick. The tendon runs, as the central slip, over the dorsum of the finger to insert into the base of the middle phalanx (**Figure 1**). The tendons of the intrinsic muscles of the hand (dorsal interossei, palmar interossei and lumbricals) join together at the MCPJs to form lateral bands, which run up both sides of the fingers, to insert into the base of the distal phalanx.



**Figure 1:** Extensor aponeurosis of the fourth finger. A, Dorsal view showing the extensor hood. B, Dorsal view with the hood removed. C, Medial view (Courtesy of Dartmouth Medical School).



**Figure 2:** Mallet finger deformity of index finger, with secondary Swan-neck deformity (Courtesy of Mr Rajive Jose).

### Classification

Mallet finger injuries include both bony and soft tissue injuries. Bony mallet finger injuries can be classified according to the Webh  and Schneider classification system (**Table I**), which is split into three main types, and further sub-typed depending

on the degree of articular involvement<sup>3</sup>. Doyle's classification is based on the mechanism of injury. Type 1 injuries are closed, with or without the presence of a dorsal avulsion fracture. Type 2 injuries are open, resulting from superficial lacerations at the level of, or just proximal to the

DIPJ, with loss of continuity of the extensor mechanism. Type 3 injuries are again open injuries, but result from deeper lacerations with loss of skin, subcutaneous tissue and tendon substance. Type 4 injuries can be split into three subtypes: A - trans-

epiphyseal distal phalanx fractures in children, B - fracture of the articular surface with 20 to 50% involvement, and C - fracture of the articular surface with greater than 50% involvement<sup>5</sup>.

Type	
1	No DIPJ subluxation
2	DIPJ subluxation
3	Epiphyseal and physeal injuries
Subtype	
1	<1/3 articular involvement
2	1/3 - 2/3 articular involvement
3	>2/3 articular involvement

**Table 1:** Webhé and Schneider classification of bony mallet finger injuries<sup>3</sup>



**Figure 3:** Lateral radiograph showing avulsion fracture of dorsal aspect of base of distal phalanx (Courtesy of Mr Rajive Jose).

### Mechanism of injury

While the finger is held in extension, any forced flexion can risk disruption to the extensor mechanism. Classically, end-on injury to the tip of the finger during sporting activities can result in a mallet finger injury. However, less commonly the injury can be a result of forcibly tucking in bedsheets, or taking off socks with extended fingers. Open injuries are due to lacerations, crush or abrasion injuries. Hyperextension of the DIPJ can cause an avulsion fracture of the base of the distal phalanx dorsally, as it impacts against the distal articular surface of the middle phalanx<sup>1</sup>.

### Diagnosis and management

The diagnosis of mallet finger injuries is based on a detailed history-taking, and clinical examination. History of a sudden forced flexion injury to an extended finger, and the presence of a tender, swollen finger, with flexion deformity of the DIPJ and an inability to actively extend at the joint (although with no limit to passive extension) should lead to a suspicion of mallet finger. As previously mentioned, hyperextension at the PIPJ resulting in a swan-neck deformity may be obvious in a late presentation (**Figure 2**). Plain films of the DIPJ of the finger in question, including AP and lateral views, are necessary in distinguishing between soft tissue and bony injuries, recording the presence of subluxation of the DIPJ, as well as excluding other injuries.

Multiple treatment options are available in the management of mallet finger injuries, however the aim is always for restoration of tendon continuity and return to function. Conservative management is the gold standard for closed injuries with no bony involvement, with a reported 60% success rate following six weeks of appropriate splinting<sup>6</sup>. The principle of splinting in mallet fingers is to maintain extension at the DIPJ, whilst allowing free movement at the PIPJ. Thermoplastic or aluminium splints are commonly available for the treatment of these injuries<sup>4</sup>. Continuous use of the splint is important, including during hygiene care, and so it is imperative that patients are advised on how to change the splint for cleaning purposes and examination of the skin, ensuring the DIPJ is not allowed to flex, whilst also allowing free movement at the PIPJ. Further splinting can be considered after this period if the tendon has failed to heal, however open repair may be considered. Complications of conservative management include skin lesions, such as dorsal maceration and ulceration<sup>1</sup>. An extension lag of 10% has also been reported in 40-70% of patients, however this does not appear to lead to a functional deficit<sup>1,4</sup>.



**Figure 4:** Lateral radiograph showing avulsion fracture, with partial subluxation of DIPJ and >50% articular involvement (Courtesy of Mr Rajive Jose).

Indications for surgical management of mallet fingers include failed conservative management, open injuries, volar subluxation of the distal phalanx, and involvement of more than 30% of the articular surface. Occasionally patients cannot tolerate or comply with splints, and here surgical intervention would again be indicated<sup>1</sup>. The method of operative treatment will depend on the presence of bony injury. In mallet finger injuries with involvement of only the extensor tendon, the tendon may be repaired separately to the subcutaneous tissue and skin, however depending on surgeon preference mass repair of tendon and skin may also be performed. Surgery in bony mallet fingers consists of either closed reduction with percutaneous insertion of Kirschner wires (extension block pinning), or open reduction and internal fixation, with reports of small screws, hook plates, tension-band wiring, figure-of-eight wiring, pull-through wires, and external fixation in the literature<sup>1,7-10</sup>.

Closed, percutaneous techniques are simpler than open procedures<sup>9</sup>. An average DIPJ flexion of 55 degrees, and extensor lag between 0-20 degrees has

been noted in patients managed with percutaneous wires<sup>11</sup>. Complications can occur however, such as nail ridging, dorsal scarring<sup>9</sup>, secondary osteoarthritis if more than one attempt at pin insertion is required, pin site infection<sup>10</sup>, and delayed union and redislocation if reduction is inaccurate<sup>12</sup>. In a study looking at hook plates versus extension block pinning, there was no statistical significance in mean DIPJ flexion or mean extensor lag in either group, however in the open surgery group there was a statistically significant reduction in both time for radiological bone healing and time to return to work<sup>7</sup>. In another comparison of fixation techniques, mean DIPJ flexion was looked at in extension block pinning (72 degrees), Kirschner wires as joysticks (58 degrees), and miniscrew fixation (54 degrees), however again these results were not statistically significant<sup>13</sup>. Regarding chronic mallet finger injuries, tenodesis may be performed, where an elliptical wedge of skin, tendon and scar tissue are resected followed by re-approximation of the skin and tendon<sup>1</sup>.

All are considered technically complex procedures, and therefore where indicated, conservative management is preferred. Complications of surgical intervention include residual pain, infection, stiffness, nail deformity and implant failure.

### Conclusion

Mallet finger injuries will result in an imbalance in the extension forces at the PIPJ and DIPJ. Untreated, the loss of integrity of the extensor mechanism at the DIPJ can lead to forces becoming concentrated at the PIPJ, and over time hyperextension may be seen (particularly with a lax volar plate), resulting in a swan neck deformity<sup>4</sup>. Treatment is therefore imperative, to ensure return of function for the patient in the short-term, and to reduce the risk of deformity in the long-term.

Conservative management, even in the presence of bony injury, is the mainstay of treatment and should be considered as the gold standard for acute, closed mallet finger injuries with articular involvement of less than 30%, and in the absence of phalangeal subluxation. A true lateral radiograph of the joint in splint is required to confirm adequate congruency of the articular surface. Satisfactory results are found in 60%, and another 20% in due course<sup>6</sup>. Results are reliant on patients complying with medical advice. A common result of conservative management is a slight extensor lag; whereby full extension at the DIPJ is not possible, however this is not usually a deficit that results in functional loss<sup>14</sup>. Surgery is indicated in open injuries, and in cases in which conservative management has failed, however potential complications must be kept in mind when coming to this decision.

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## **Perceptions of the Effectiveness of Mentoring Programme among Medical Students In a Private University in Selangor, Malaysia**

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### **Abstract**

Mentoring is a type of program which helps to foster professionalism and develop a personality in the newer generation of medical students by a role model who is their assigned mentor. This study is aimed to identify the perceptions of medical students towards the effectiveness of mentoring programme. This cross-sectional study was conducted for a period of 7 weeks. A self-administered questionnaire was used to gather data among 857 students. The results showed that 83.9% of students have good perception towards the mentoring function. There is a significant association between the phase of study in all aspects of mentor's potential ( $p < 0.001$ ). The clinical students have a better perception on mentor potential as a role model, envisioner, energizer, feedback giver, door-opener, idea-bouncer, career counsellor and challenger compared to the pre-clinical students. Besides that, there is a significant association between mentoring function and phase of study ( $p < 0.001$ , 95% CI= 0.1, 0.19) and the mean result is higher in students who are available during the mentoring hours compared to students who are not available ( $p = 0.02$ , 95% CI= 0.01, 0.12). In conclusion, the mentoring programme was found to be effective as majority of the respondents had good perception towards the programme. More attention should be given to the program by allocating more flexible time arrangement.

### **Key Words**

Mentoring, Medical students, Private university, Malaysia

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### **Introduction**

Mentoring is a key to a successful and satisfying medical career as reported by several authors<sup>1-3</sup>. The development of mentoring took place in the USA in early 1970s and it aimed to support junior staff in corporate offices. Later in 1990s, mentoring programme was introduced in medical education also in various medical schools across the world including Malaysia<sup>4</sup>.

Medical students learn medical professional skills to assimilate into the culture of medicine and choose a career path best fitting their interests and skills. Mentoring provides several demonstrated benefits. Research suggests mentoring can decrease attrition in medical school<sup>5</sup> and influence personal developments of students, their career choice and research productivity<sup>6</sup>. A mentor is defined as an experienced and trusted counsellor or guide. Mentors can also be important to teaching and modelling the essential ethics and professionalism to navigate the hidden curriculum<sup>7</sup>.

Although mentorship may be helpful, without a structured programme, students may have difficulty finding mentor. Barriers to find mentors may include discomfort with asking, not meeting a faculty mentor with a similar career interest or not meeting a faculty mentor with similar personal interest<sup>8</sup>. Barriers for faculty to be successful mentor include lack of time, lack of training and lack of financial incentives. Other than these, generation gap is also a hot factor in mentoring process.

Mentoring has been identified as an important social intervention for supporting medical students. It has been observed great academic achievement less absence from school and more positive attitude towards school<sup>9-11</sup>.

The aim of current study was to identify the perception of medical students towards the effectiveness of mentoring programme and the factors influencing this effectiveness.

**Methods**

A cross-sectional study was conducted among 857 medical students of Year 1 to Year 5 in 2015 with response rate of 84.94%. A Non-probability convenience sampling was applied in this research as this method was suitable to be used within the short time frame. A validated questionnaire based on five point likert scale (1= strongly disagree, 2= disagree, 3= not sure, 4= agree, 5= strongly agree) was administered to undergraduate medical students (n= 857) between September to November 2015. The instrument had demographic information, general perception on mentor – mentee system, academic support, personal development and emotional and psychological support.

Questionnaire was distributed to students and a written consent form was obtained from them. High scores indicated the better perception for that particular section of the instrument. Using the Statistical Package for Social Sciences (SPSS) version 20.0 data were analysed and the significance level was set ( $p = 0.05$ ).

The study was approved by research ethics committee of the university.

**Results**

857 students out of 1009 undergraduate medical students completed the questionnaire. Of the 535 (62.4%) respondents were in their clinical year and 322 (37.6 %) were pre-clinical students. 551 (64.3%) of the students aged less than 23 and 306 (35.7%) of the them aged more than 23 as shown in table 1.

The prevalence of students' perception towards mentoring was 16.1% with low perception and 83.9% has high perception (table 2).

Table 3 showing the Comparison of mean score for student's perception on mentoring function between clinical and pre-clinical students. There was a significant association as  $p$  value =  $<0.001$ . Mean difference = 0.14 with 95%CI = (0.1,0.19).

There was a significant association ( $p$  value  $< 0.001$ ) between the year of study (preclinical and clinical) with the student perception on mentors potential as a role model as shown in table 4.

**Discussion**

Based on the final data analysis from 857 MBBS students which completed the questionnaire, about

No	Variables	N (%)
Year	Year 1	141 (16.5)
	Year 2	181 (21.1)
	Year 3	199 (23.2)
	Year 4	171 (20.0)
	Year 5	165 (19.3)
Gender	Male	238 (27.9)
	Female	616 (72.1)
Race	Malay	552 (64.6)
	Indian	228 (26.7)
	Chinese	32 (3.7)
	Others	43 (5.0)
Age	< 23	551 (64.3)
	>23	306 (35.7)
Residence	State bound	374 (44.2)
	Out of state bound	473 (55.8)

**Table 1:** Socio demographic information of the undergraduate medical students (n = 857)

Variables	Categories	N	%
Mentoring function	Low perception	138	16.1
	High perception	719	83.9

**Table 2:** Prevalence of student's perception towards mentoring function.

Variable	Clinical	Pre-clinical	Mean	t-statistic (df)	p value
	(n = 535)	(n = 322)	difference (95		
			% CI)		
	Mean (SD)	Mean (SD)			
Perception	1.79	1.93	0.14	6.28	<0.001
	(0.41)	(0.26)	(0.1,0.19)	(853)	

**Table 3:** Comparison of mean score of student's perception on mentoring function between clinical and pre-clinical students.

Variable	n	Pre-Clinical	Clinical	X <sup>2</sup> Statistics	p-value
(Model)		n (%)	n (%)	(df)	
Low	440	122	318		
	(51.3 %)	(27.7 %)	(72.3 %)		
High	417	200	217	37.371	<0.001
	(48.7 %)	(48.0 %)	(52.0 %)	(1)	
Total	857	322	535		
	(100.0 %)	(37.6 %)	(62.4 %)		

**Table 4:** Comparison between Pre-Clinical and Clinical student on mentor potential as a role model.

83.9% prevalence of the MBBS students have high perception towards the mentoring function and only 16.1% with low perception. This might be due to the idea of the mentoring programme as a way to lead the younger generation especially those from burdened foundations and at danger of a censurable misconduct with a positive good example<sup>10</sup>. Apart from that, this program is also believed to offer the honesty towards the goodness care and moral support, which can test negative perspectives among the youth<sup>12</sup>. A cross sectional study was carried on 314 medical students in University Science Malaysia (USM) to identify the student's perceptions and attitude towards mentoring. The results showed 45.9 % of the students perceived the BigSib Students' Peer-Group Mentoring Programme as successful. About 60% of the students perceived it as an effective mentoring function in developing their soft skills and professionalism. The study concluded that, medical students have positive attitudes toward the program and it is perceived as a successful and effective program in developing student's personal attributes<sup>13</sup>. Our research finding regarding this measurement is supported with this result and both of these studies showed that majority of the students have high perception towards the mentoring function.

Because of class size increase, identifying a mentor is more challenging. Lack of mentoring has been associated with increased stress and less opportunity for academic achievement<sup>13</sup>. A limited research regarding effectiveness of formal mentoring programmes has been reported<sup>15,16</sup>.

Based on our research, there is a difference in the mean score of student's perception on mentoring function between clinical and pre-clinical students. The results showed mean (SD) for the clinical students is 1.79 (0.41) and the mean (SD) for the pre-clinical student, 1.93 (0.26) with p value = <0.001. This showed that the pre-clinical students have higher perception towards the mentoring function compared to the clinical student. The reason for this is that the students might found mentor to be a valid means of support especially in the early phases of training. Mentors were seen to satisfy a socializing role as they passed on norms of behaviour and ward routines<sup>17</sup>.

Besides that, pre-clinical students of MBBS MSU have a higher mean score of perception on mentoring system which is 0.941(0.236) compared to clinical students. The reason is they can improve their acquisition on clinical skills and the development of a positive professional identity through mentoring program. The system for evaluating preclinical student's learning is meant to strengthen the integration of basic and clinical

sciences and this can be achieved through a good mentoring program. Based on a recent study conducted by Cheah Whye Lian et al.<sup>18</sup> which compared the perception between second year medical students (pre-clinical) and fifth year medical students (clinical) shows a pre-clinical students also had a better perception towards mentoring program compared to clinical students with a mean score of 3.57 (SD=0.74) and 2.92 (SD=0.95) respectively. This difference is found to be significant ( $p < 0.001$ ). Thus, it showed that both of the studies stated that pre-clinical students have higher perception towards mentoring programme.

### **Recommendations**

#### **1) Recommendations for Mentors**

Mentors can be trained to improve their ways and soft skills to approach students for better future mentoring programmes. They should aim for a swift adaptation towards their own mentoring group by creating more interesting programs together in terms of curricular and extra-curricular.

Mentors can discuss with their mentees regarding preferences, abilities, interests, achievements, novelty, and practical relevance. They can also assist students in their study methods, teaching them to learn the basic concept of medicine, and also monitoring tasks that had been given to the students.

Besides that, mentoring programme will be more interesting and able to achieve greater success when a good and strong relationship is developed among faculty advisors, mentors, and students. Thus, students will engage a better comfort level among participants of the particular programme.

Mentors not only assist in professional knowledge and career development, but they also can assist in personal potential revealing of their mentees.

#### **2) Recommendation for Mentees**

Mentees should give full commitment towards the mentoring programme such as being punctual, cooperative, responsive, and completing the tasks given appropriately.

Furthermore, mentees must be willing to accept their mentor regardless of the mentor's nationality, race and gender. This is very important in terms of adaptability for their future development career. For example, students must be flexible in order to fit in or work better in new environments.

Otherwise, in order to create a good perception towards the mentoring programme for students, they can suggest to organize various outdoor activities rather than a passive meeting in the

classroom. Apart from that, mentees can learn from their mentors on how to develop effective communication skills which can help in all aspects of their life in the future.

3) Recommendation for MBBS Mentoring Programs  
IMS should assign clinical mentors to clinical students and vice versa. This will bring a lot of positive impact and influence in many aspects such as emotional, psychological and career development for the students. For example, for clinical students, mentors can give their personal view regarding scopes of their future career, soft skills and communication skills. It is also recommended that the faculty should consider setting a more flexible time arrangement for the mentoring hours.

### Conclusion

In conclusion, the mentoring programme was found to be effective as majority of the respondents had good perception towards the programme. More attention should be given to the program by allocating more flexible time arrangement.

### Conflicts of interest

The authors declare no conflict of interest.

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## Endoscopic Retrieval of Impacted Gallstone in the Rectum

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### Abstract

**Introduction:** Gallstone ileus is an uncommon cause of a mechanical bowel obstruction (1-3%)<sup>1</sup>, where a gallstone passes into the small bowel via cholecysto-enteric fistula, and impacts in the terminal ileum. Even more rarely, the stone might pass to large bowel where only few reported cases have diagnosed gallstones in the rectum.

**Presentation of Case:** In our case, an 83 year old lady, known to have a history of 4cm gallbladder stone, was admitted for management of ileus that was thought to be due to hypokalemia; However, a gallstone in the rectum was missed on the abdominal X-ray. Patient was discharged only to be readmitted few days later with on-going obstructive symptoms and was found to have the gallstone impacted in the rectum on CT colonogram. The stone was successfully retrieved endoscopically.

**Discussion:** Although cases have been reported of spontaneous passage of rectal stones, in this case the large gallstone remained impacted in the rectum and caused mechanical obstruction. A successful catheter-aided extraction of gallstone in rectum under local anaesthesia has previously been reported. In our case, Flexible sigmoidoscopy was used to evacuate 4 cm gallstone successfully.

**Conclusion:** Gallstone ileus is rare but well-documented cause of bowel obstruction, and it is always paramount to look for radiological features of gallstone ileus. Gallstones impacted in the rectum are even more uncommon and can be managed by endoscopic retrieval.

### Key Words

General Surgery; Gallstone; Rectum; Endoscopy; Gallstone Ileus; Flexible Sigmoidoscopy

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### Introduction:

Gallstone ileus is an uncommon cause of a mechanical bowel obstruction (1-3%)<sup>1</sup>, where a gallstone passes into the small bowel via cholecysto-enteric fistula, and impacts in the terminal ileum. Even more rarely, the stone might pass to large bowel, with only few reported cases of gallstones impacted in the rectum.

### Presentation of Case:

In our case, an 83 year old lady, known to have a history of 4cm gallbladder stone, was admitted to hospital complaining of abdominal pain, nausea and vomiting. She was managed as a suspected paralytic ileus secondary to hypokalemia; However, a gallstone in the rectum was missed on the abdominal X-ray that also showed dilated bowel loops (Figure 1). After correcting the patient's potassium level her symptoms improved and she was discharged back to nursing home. However, a



Figure 1



few days later, the patient was re-referred by her GP, with the same symptoms. The patient was re-admitted and again found to have severe hypokalemia with dilated bowel on an abdominal x-ray. The plain film on this admission did not show the gallstone in the rectum, as the x-ray missed the pelvis.

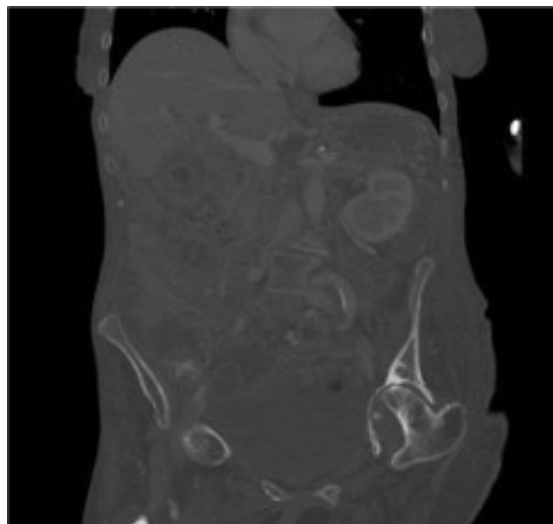
The initial clinical picture was again thought to be in-keeping with paralytic ileus/pseudo-obstruction secondary to hypokalaemia. A CT Colonography was done showing a gallstone present within the rectum (Figure 2), with pneumobilia (Figure 3). This gallstone was previously noted to be within the gallbladder on a CT examination done few months earlier (Figure 4).



*Figure 2*



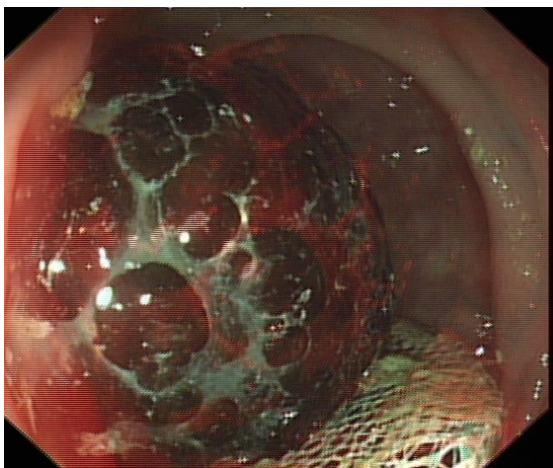
*Figure 3*



*Figure 4*



*Figure 5*



*Figure 6*

The patient had a flexi-sigmoidoscopy with successful retrieval of the gallstone using a large snare. (Figure 5,6). Following this, her symptoms



completely settled down, and she was discharged from hospital.

**Discussion:**

Few rare cases of spontaneous evacuation of gallstone from rectum have been documented, yet such an expectant management could be painful to the patient<sup>2</sup>. A successful catheter-aided extraction of gallstone in rectum under local anaesthesia has been reported<sup>3</sup>. In our case, flexible sigmoidoscopy was used to evacuate the gallstone successfully despite its large size (4 cm).

**Conclusion:**

Gallstone ileus is rare but well-documented cause of bowel obstruction; It is paramount to look for mechanical causes of bowel obstruction. Large, impacted rectal gallstones can be removed endoscopically, avoiding the need for an anaesthetic.

**Highlights:**

- 1- Gallstone ileus is rare but documented cause of bowel obstruction.
- 2- It is always paramount to look for obvious mechanical cause on X-ray.
- 3- Impacted gallstone in the rectum could possibly be an indication for flex-sigmoidoscopy.

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