53rd Inaugural Lecture

"Of Broken Bones and Broken Dreams; a Bone Carpenter to the Rescue"

by

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" Life is movement; move forward with the current of your soul, be not discouraged, for you shall pass this way but once. Whatever befalls you, just don't stop; keep on moving."

Author Unknown.

Courtesies and Protocols,

1. Introduction of the Inaugural Lecture (and Dedication)

This is the **first** inaugural lecture from the Department of Surgery; the **fourth** from the Faculty of Clinical Sciences, the **seventh** from the College of Medicine, Lagos State University and the **53rd** from the University itself.

Figure 1.

Inaugural lectures bring the Town and the Gown together. During my student days at the University of Ibadan in the 1980s, an inaugural lecture was some sort of inauguration of a lecturer into the top echelon of the ivory tower. The University gave a lecturer an opportunity to tell his own story, his background and his growing years up to the unique world of research, his discoveries and how he had succeeded in moving the local, national and/or global academic community forward by at least an inch; sometimes a mile. The lecture usually ended with recommendations for University, Government and the larger Society. Indeed, all who had helped the don in reaching his heights were acknowledged. My lecture would depart a bit from this arrangement. Firstly, it is coming nearly nine years after I became a Professor on 19 October 2007. It is better late than never. Indeed, I am most challenged by the excellent culture being nurtured by our Vice-Chancellor, **Prof Olanrewaju Adigun Fagbohun** (**Fig 2**)

Figure 2.

I have responded to his call for Professors to do the needful. This marks the second inaugural during his tenure. I thank him for giving me the opportunity to choose today the 31st of August 2016—being exactly 30 years that I lost my main man—my father (**Fig 3**), just 10 months before I finished my course of study as a medical doctor at the University of Ibadan. Alhaji died 31 August 1986, six months after his own mother—Alhaja Asiawu Akibu Omo Lawani (**Fig 4**)— died in February 1986. Whatever I am today, I owe it to these two forebears and another three others in our extended family who gave me a solid foundation in being a disciplined, focused young boy. The three others are late Alhaji Mustapha Idiagbede who was half-brother to Alhaja Asiawu (**Fig 5**), Alhaji Mustapha's wife—who is my aunt (Alhaja Maimuna Al-Barkha Balogun, **Fig 6**) after whom I named my one and only daughter. Alhaja Maimunnah brought me up; and lastly my mother Alhaja Sarata (**Fig 6**).

Figures 3-5: L to R: My Father (Alhaji Oba Abdulkadir); My Grandmother (Alhaja Asiawu Akibu) and her half brother Alhaji Mustapha Idiagbede—all late (31 Aug 1986; Feb 1986 and 31 May 1979, respectively).

My childhood dream of becoming a medical doctor began in Primary 2 when I fell seriously ill. Everyone thought I would die of the illness but I survived having been taken care off at a newly established private hospital in Ilorin, Kwara State—**Ola Olu Hospital** owned by Dr Oloruntoba. Healthcare delivery at this period in 1974 was rudimentary but with compassion and commitment of doctors like Dr Oloruntoba wonders did happen. My impression of the doctor and the way he interacted with his staff and patients made me decide I would become a medical doctor when I grew up. All my exercise books ever since then from Primary 2 had the title "Doctor" written on them. ***Talk of a dream by a child***. Here I am today, not only a medical doctor of 29 solid years, but also a top-notch Consultant Surgeon of 20 years in the field of Orthopaedics and Traumatology. With gratitude to Almighty Allah, the Eternal, the All Knowing, I became a Professor in the field. The ***first permanent staff Professor of Surgery (in any specialty) appointed by this University***. Therefore, I owe this University so much for contributing to my dreams of reaching the top rank in the academia.

This great University also gave me the opportunity to become the ***first substantive Dean of the Faculty of Clinical Sciences*** (FCS) March 2008-February 2010; ***Head of Department of Surgery*** (August 2012-July 2015) and now the ***seventh Provost of the Lagos State University College of Medicine (LASUCOM)*** from March 2016. I dedicate this lecture, in the first instance, to my forebears (my late grandmother, late father, late brother of my grandmother, my aunt and my mum; secondly to all my teachers right up to the University and beyond; thirdly to my own students everywhere at University College Hospital Ibadan, University of Ilorin and our great LASUCOM—including the Resident doctors whose careers were shaped by my contributions and who in turn shaped my world view. As they say, we actually learned by teaching others. Fourthly and finally to all my patients who formed the centerpiece of my research and from whom I have learned the greatest lessons in life.

Figure 6: My mum—Alhaja Sarata (last born of 4 sisters and my aunt—Alhaja Maimmunah Al-Barkha Balogun)—both alive at 76 and 86 years old now

Although I suffered a broken bone in 1990 (Bennett's fracture in my left hand) as a Resident Doctor at the University College Hospital (UCH) Ibadan when a psychiatric patient attempted to give me a blow on my head in the emergency room and I had to defend with my hand, my dreams of becoming a surgeon were not broken as I am able to use the hand till today in carrying out surgical operations and all that I do. **How many young boys and girls, adult men and women and the elderly have had their dreams broken as a result of broken bones?**

This is the inaugural lecture **the Town and the Gown** would listen to today—how being an Orthopaedic Surgeon I have been privileged by Almighty Allah to rescue many whose dreams were potentially broken just because they had a broken bone—they got back to living their dreams as much as was possible. I have done this either as a **team *member*** or ***team leader*** **in Nigeria, Africa and the World stage through teaching, research and community service**. I hope one or more students of our dear university, LASU, their friends or parents, my colleagues would derive inspiration from this lecture as I did when as a student I listened to inaugural lectures at the University of Ibadan (UI). I also hope members of my extended family here present or who would read my lecture would be proud of what they had achieved supporting my career till this day. The secret of my life revolves around my being blessed with all these people who prayed for me to be blessed with wisdom, strength and excellence in attitude. I am who I am today because of your sacrifices for me and my future in the midst of a whole lot of a large **extended family of the Solagberu Balogun Idiagbede of No 5, Idiagbede Lane, Oja Oba, Ilorin, Kwara State.**


Fig 7-8; Family House in 1967 during commissioning, Oja Oba Market in front, **pic now in 2015 extreme right-we have all moved out to our private residencies**).

I went to St. John's African Church Primary School, Ilorin (**1972-1977**) and graduated 1st out of 123 pupils on **7th July 1977**. We had trekked to school barefooted a distance of eight Kilometres until Primary 3 when my dad bought a pick up van meant for his business but which would convey us to school first. We wore shoes only during School celebrations like match past on Children's Days or Independence Anniversaries!

Fig 9. (**Primary 6, by the School Church barefooted in 1977**).

Prof Rabiu Olayinka Balogun (a Professor of Obstetrics and Gynaecology at the University of Ilorin, **Fig 10**) was senior to me in the extended family and he went to the same primary school also. Our family tradition included having morning prayers just before leaving for school and we would take turns based on birth sequence in the large family to make prayers for ourselves, family members, the town and country. Turns were not based on who our mother or father was in the extended family. That family has produced Directors in Public Service at the Federal Ministry of Commerce (**Alhaji Bayo Balogun**), retired Manager at Cadbury Nigeria Limited (**Mallam SOA Balogun**), **Dr Olaitan Balogun, PhD**; **Alhaji Tunde Balogun** of PHCN, Kano; **Dr AbdulRasaq Solagberu** (PhD), School Principal & Administrator **Alhaji Ladi Balogun**, **Prof OR Balogun**, **Alhaji Hamza Balogun**, Director of Finance at JAMB, Abuja, (**Figure 11**) and several young ones. Either late Alhaji Mustapha, or Alhaja Maimunnah would end the prayers and it would include ***"May***

Allah not make anyone of you be subservient to any other amongst yourselves"—meaning you should all be successful in your own rights. Today is one other evidence of family success because by 2007 when I was appointed a professor, I became immediately **the first indigenous Professor of Orthopaedic Surgery from the entire old Northern Region of Nigeria**. (Two other Professors of Orthopaedics who had worked in the Northern region were of Southern extraction—Prof Mbamali at ABU Zaria and Prof WW Ebong at University of Maiduguri). Therefore, I welcome you to the world of bone carpenters as they rescue those who broke their bones from having broken dreams.

Fig 10 Prof OR Balogun, Fig 11 (L-R Dr AbdulRasaq Solagberu PhD, Alhaji Hamzat Balogun, Alhaji Ladi Balogun and Alhaji SOA Balogun)

Fig 12, 13 Old Northern Region and its revered Premier Sir Ahmadu Bello Sardauna

2. Definition of Surgery, Surgeons, Orthopaedic Surgery and why the Inaugural title.

Surgery is an art as well as a science; that branch of the medical profession that treats swellings and deformities and also prevented them; sometimes through non-operative means but significantly through repair, reconstruction, removal and/or replacement of body parts (surgical operation). "Swellings"—an increase in size of a structure or an organ or "deformities" –an alteration in shape can occur or be seen internally, externally or both as a dumbbell swelling in the human body. From Biology lessons, we learned that changes in shape (***form***) can affect ***functions*** hence the goal of a

surgeon is to treat the abnormalities in form so that body functions would be restored. Those trained in this art are called surgeons. The pioneer surgeons would be thought of by today's reckoning as being brutal because they carried out their trade without what we now know as anaesthesia or antisepsis. The fortunate/unfortunate patient would be **drugged** with a heavy dose of alcohol into near stupor before his limb would be cut away—amputation surgery (**Fig 14**).

Fig 14 (www.pinterest.com) drugging a patient before amputation

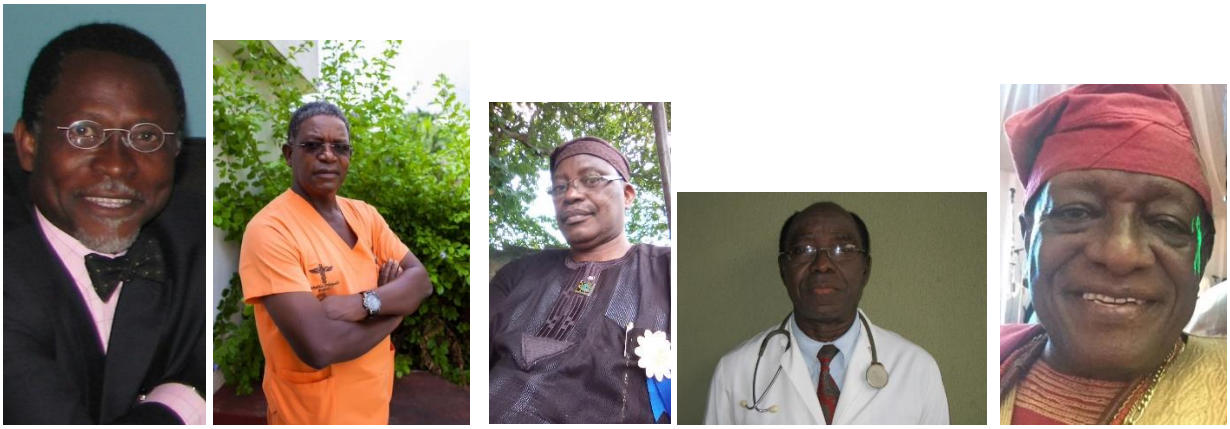
Due to advances in anaesthesia, antiseptics and antibiotics (the so-called triple A's), modern surgery progressed. More extensive operations lasting several hours can now be done with greater precision and safety to repair, restore or replace any damaged human parts. Indeed, from Biology lessons also we remember the acronym **"MR NIGER"—being characteristics of a living being**. The different branches of Surgery can be represented from this acronym. Hence, Mr Vice-Chancellor sir, members of the Town and Gown, we now know what surgery is and who Orthopaedic surgeons are. This is who I am primarily and it is in this arena I have plied my trade. (**Table 1**)

Table 1		
"MR NIGER"		
M	**Movement**	**Orthopaedic Surgery: structures of bone, joint, muscles, tendons, ligaments, etc**
R	Respiration	Cardio-Thoracic Surgery: Heart and vessels; lungs and trachea (plus Oesophagus)
N	Nutrition	Gastro-intestinal Surgery/General Surgery (External swellings and GIT)
I	Irritability	Neurosurgery: Brain and Spinal Cord and peripheral nerves
G	Growth	Paediatric Surgery: General Surgery of children and growing body structures
E	Excretion	Urology : Surgery of the Urinary system and tracts (and male reproductive organs)
R	Reproduction	Obstetrics and Gynaecology: Surgery of female reproductive organs and tracts

I stumbled on Orthopaedic surgery by accident. Indeed, we had very short exposure to it as medical students (only two to four weeks of lectures) as in all medical schools in Nigeria. It was not inspiring as we thought it was little more than amputations. I must say that Orthopaedic surgery has expanded in leaps and bounds since my 1985 initial exposure due to improvements in radiographic imaging, technological advancements in instrumentation and metallurgy (see later). In fact, as a Registrar in Surgery in 1990, a colleague of mine with whom I did Housemanship at the University of Ilorin Teaching Hospital (UITH) who began his career as a Resident in Orthopaedics in Kano after his NYSC, **Dr Foluso Abolarin**, was told by me that he did not have anything serious to do by choosing Orthopaedics! As a houseman in Ilorin, he had wanted to pick Obstetrics and Gynaecology. So I despised Orthopaedics that much. My first love was for ***neurosurgery*** instead but during residency I had major disagreements with my Chief Trainer—**Prof Temitayo Shokunbi** and I found love and care from the then Orthopaedic trainers in UCH—**Dr Obileye** and **Dr Adetunji**. Prof Shokunbi was so incensed I could change to Orthopaedics that he was alleged to have tried to influence **Prof Oluwole Gbolagunte Ajao**, the Head of Surgery at Ibadan at the time, to send me out of the Surgical Training Programme and that I must reapply if I wanted Orthopaedics but **Prof Ajao** would have none of that. Incidentally, I owe my first experience in research to both of these gentlemen who are my mentors. (***There are lessons for both trainees and trainers in my experience—see post-script***). I felt rightly or wrongly that if I was to become a neurosurgeon, there was no way I could have succeeded in Nigeria without Prof Shokunbi so I opted out; otherwise I must travel overseas to the United States of America for training. I passed the American **ECFMG examinations** at one sitting in 1990 but I had no money (**in dollars**) for the matching programme. One Dr Balogun, PhD who worked for the NNPC at the time and who I met during my NYSC period collected my one year Military Hospital call duty allowance of N2,000 to purchase dollars and pay for me but never did so till date. So I stayed back in Nigeria pursuing Orthopaedics with external Consultant surgeons in UCH because all the Orthopaedic surgeons had gone to Saudi Arabia or elsewhere.

Prof Olajide Ajayi, **the then Chief Medical Director (CMD) of UCH** helped me to do some external postings at the National Orthopaedic Hospital (NOH) Igbobi in 1993. Surgeons have always had big egos; indeed, greater than most other physicians. It is not impossible that the unique reputation of being ***the actor*** in the operation room which no other doctors enjoyed contributed to this blotted ego. They fight themselves, challenge themselves unduly for space and reckoning sometimes detrimental to the patients they swore to serve. They work too hard, too long and too much and sometimes to the neglect of their own health and families. They are supposedly rich (or comfortable) as the profession pays handsomely through added private practice but they suffer a reportedly high divorce rate and suicide in many countries. They are precision people. They are as bold and courageous as a lion is; their touch of the

human organs must be as gentle as a lady's and they must have sharp eye sight as like an eagle with broad vision. Hence the saying: ***the heart of a lion, the hand of a lady and the eyes of an eagle*** to describe a surgeon. My trainers instilled all these qualities in me and I developed some others of mine through further reading of motivational and religious books.



Figures 15-20 Prof Shokunbi, Dr Obileye, Dr Adetunji, Prof O G Ajao, and Prof O Ajayi

Fig 20: Late Mr GAA Oyemade (saved my career till the award of FWACS in 1996) I passed the primaries and Part I of both West African College of Surgeons and the National Postgraduate Medical College of Nigeria at first sittings in 1989 and 1992 but did Part II the fourth time before I could pass West Africa from October 1994 till April 1996. I did not attempt the National College Part II as the onslaught I was facing was too much from the Chief of my Department, Prof Ope Adekunle. He wouldn't even support a one year extension for me despite my good records in the department. I was granted only six months to end in October 1996 but after passing in April, I resigned in June 1996.

3. What diseases do Orthopaedic surgeons treat and how these diseases relate to my lecture title?

When bones break, we describe fractures. The structures for movement are centred around bones. When two or more bones break we call that multiple fractures. Injuries or trauma cause energy transfer to bones making them break. There are many types of injuries (**See Table 2**). Note the variations in the types of

injuries between Ilorin and Ikeja Registries. The body region is divided into head and neck, face, chest, abdomen and pelvis, extremities (upper and lower limbs) and skin.

Table 2. Some Types of Injuries and their relative frequencies in Ilorin and Lagos			
SN	**Types of Injuries**	**Ilorin**, Nigeria: 2 years **n1**= **2,913** (%)	**Ikeja**, Nigeria; **2 years n2**= **11,420** (%)
1	Road Traffic Injuries (RTI) or Crashes (RTC) (NOT Road Traffic Accidents, RTA—old use)	1,816 (62.4%)	**4,191 (36.7%)**
2	Falls	308 (10.6%)	**2,066 (18.1%)**
3	Assaults	258 (8.9%)	**2,854(25.0%)**
4	Burns (thermal injuries)	159 (5.5%)	**408 (3.6%)**
5	Home injuries	122 (4.2%)	541 (4.7%)
6	Gunshot injuries (wounds)	107 (3.7%)	432 (3.8%)
7	Industrial injuries	73 (2.5%)	361 (3.2%)
8	Foreign body (hollow structure injuries)	70 (2.4%)	**495 (4.3%)**
9	Poisoning, Drowning, Suicide	Not Available	Not available
10	Plane crash	Not Available	**72 (0.6)**

References: See papers listed Ref [1, 2]

Certainly RTI or RTC constitute the greatest menace for the local, national or global burden of injury disease. Through injuries, premature deaths occur. Indeed, deformities, paralysis or disabilities altering the structures of movement from achieving optimum performance. It can be that the bone fails to heal (**non-union**) after some expected time limit, or it took too long to heal (**delayed union**; **6-8 weeks in the upper limb, twice as long in the lower limb; indeed half as long in children)** or heals in a wrong shape (**mal-union**). If the skin is broken during the traumatic event or as a result of complications from surgical intervention, there is a possibility of infection which can lead to bone (and joint) infection singly or together (**osteomyelitis or septic arthritis**). Involvement of the joints would lead to some form of joint failure (**arthritis**). When a joint fails to perform one or more of its four functions we say the joint has failed—movement at the joint, painless characteristic of the movement, stability and giving of body shape otherwise called cosmetic function.

Since **MOVEMENT** is a significant function of man—life is movement—losing this function in any part of the body would seriously affect one's dreams of becoming whatever one dreamed of. Simple tasks like walking without an aid, standing, running, combing one's hair or buttoning one's shirt or tying a head scarf

cannot be taken for granted. This is where the Orthopaedic surgeon is invited to rescue the dream of all and sundry be they children with supracondylar fracture, epiphyseal injuries or open tibia fracture with osteomyelitis. (**Figures 21 and 22**). Adults suffer injuries too that can lead to job losses or the necessity to change careers or change dreams. The elderly suffers falls with fractures in the neck of femur or Colles' fracture eventually affecting their ability to move the lower or upper extremities properly.

Figure 21a, b, c: Rt elbow could not fully extend, nor flexed (can not comb the hair or button up) XRay

Figure 22 a and b: delayed union (parents thought that the child was only little injured and did not consider hospital consultation until swelling persisted.

The World Health Organisation (**WHO**) has reported that 1.3 million deaths occur yearly from RTI, with 90% of the deaths occurring in low and middle income countries (**LMIC**) of Africa and Asia [**3**]. **I was destined to establish the injury registry in both the University Teaching Hospitals at Ilorin and Ikeja; and indeed Lagos State as a whole and Nigeria. This is one of my most important contributions to research in Nigeria and the global literature on injuries** (details below). My research team possesses the most accurate data on all forms of injuries across Nigeria—the country with the highest incidence in Africa partly on account of the population just as Lagos has the highest in Nigeria. There are 5 million deaths from injuries generally every year out of the 50 million incidence. While the Federal Government of

Nigeria set up the **Federal Road Safety Commission** (**FRSC**) in 1988 to deal with road traffic injuries only, the Lagos State Government had set up **Lagos State Safety Commission** to deal with all forms of injuries including road, home, school, industry etc. I led a team of researchers to the Lagos State House of Assembly to support the bill and provide data to include a funded research arm that would be cooperating with the academia. I had given lectures at the 20th and 25th Anniversaries of FRSC in Abuja in 2008 and 2013, and in Kwara Sector while I was at Ilorin. Apart from the costs extracted from the individual by injuries in terms of lack of movement and a change of dreams; the community pays dearly in emotional costs to family and society in caring for the injured, losing unearned income in terms of time spent out of their jobs, selling property to finance the care of the injured and sometimes on funeral expenses. It has been documented by the **WHO** that injury is also a cause of poverty [**4**]. The old millennium development goals (**MDGs**) and the No 1 goal of the new sustainable development goals (**SDGs**) address eradication of poverty.

Orthopaedic surgeons are also involved in treating other bone diseases associated with systemic disease—**diabetes mellitus,** which can manifest in the form of diabetic foot (DF). Another disease group is **Tuberculosis of** the vertebral spine called spinal tuberculosis, I am one of the less than a dozen researchers on TB spine in Nigeria. **Bone cancer** or tumours either benign or malignant; the latter being either primarily from the bone itself or secondarily from other organs like thyroid gland, breast, lungs or prostate glands and depositing what we call secondaries in the bones is another. There are joint bending diseases too called **"bow leg or knock knees"** especially among children. Many different causes are implicated and in this country there is a variation between Northern and Southern Nigeria.

It can be Ricketts (North), Blount's disease (quite common in Lagos but rare in Ghana), physiological changes of growth (the most common variety), post-traumatic or congenital absence of any one of the two bones of the leg (tibia or fibula). In the adult's phase of life, **osteoarthritis** would lead to bending of the knees and the joints may have to be replaced through Total Joint Replacement (TJR) operation. **Sixty percent of my research contributions are on trauma and bone infections**. **All five phases of trauma—epidemiology, pre-hospital care, emergency room reception, in-hospital care and rehabilitation**. I have also classified osteomyelitis for developing countries. Indeed, I had a special look into the manner that Nigerians patronized the traditional bone setters (TBS) who have become competitors to the orthodox orthopaedic surgeons.



Figure 23 a, b, and c: a 13 year old girl with a beautiful name afflicted with what is known as "Osteosarcoma"—a bad form of cancer of the bone. This had deformed her thigh and knee on the left. She defaulted from the clinic and all efforts to recapture her through GSM numbers proved abortive—a regular occurrence that deserves further research so that our people can be saved from the menace of cancers.


An example of leg cancer that was completely excised.

Bone is a hard tissue that the surgeon's knife cannot cut unlike skin or other soft tissues. It goes without saying that to effect changes in the shape of a bone with a view to repairing it (shape and size), one would need instruments that look like a carpenter's. **Even though Harpley's in his later editions of his book rejected the notion that Orthopaedics is bone carpentry—I hold on to his original description, hence, the orthopaedic surgeon must be a bone carpenter then**! As children, adults and elderly we have dreams that age cannot stop as we keep dreaming even as we age—for a child it can be to become a doctor, an

educationist, an actress, an athlete or a footballer; for an adult it can be that of a mother looking forward to dancing on her daughter's wedding day or establishing a business that involves moving around. An elderly may still want to go round the world travelling or playing golf post-retirement—if injuries did not cut short the life, the disability adjusted life lost, the deformity or paralysis could alter the dreams. **The bone carpenter in giving ultimate treatment in preventing loss of life, avoiding deformities and paralysis has really come to the rescue**. Mr Vice-Chancellor sir, members of the Town and Gown, this is my story and how I have moved the Nigerian society and the global academic community forward through my humble contribution.

4. My Journey through life till today (Birth, School and Work).

I was not meant to survive when my mother went into labour while still in her shop at Ilorin by **5-7pm on Monday 13th April 1964** (**Fig 7, 8**). She had her antenatal care at the later-named UITH (then Maternity Hospital manned by Egyptian doctors) Ilorin but the prevalence of home delivery at the time and the existing cultural barrier to accessing healthcare services must have conspired against a healthier decision of moving to the hospital immediately. She bled a lot according to the account she gave me (**post-partum haemorrhage**) and thank God mother and child survived and are both here today to tell the story—she to me and I to the whole world. **The Under 5 mortality rate in 1964 was 328 per 1,000 live births but this has improved still unsatisfactorily to 109 in 2015 [5].**

Figure 24a and b (Sitting on my mother's lap in 1964 and 23 years later at MBBS convocation in 1987 at the University of Ibadan.

I went through Arabic and Islamic School first before enrolling for western education much later in 1972 at age 8! The right hand must touch the left earlobe when the right arm is placed across the head! Two years later I formed my most important dream of becoming a doctor after convalescence. What I lost in early education I made up for in spending only four years in secondary school and entering the University of Ibadan in 1981 and graduating in 1987. **Thus between primary school exit in 1977 and 1987 when I qualified as a medical doctor was only 10 years**.

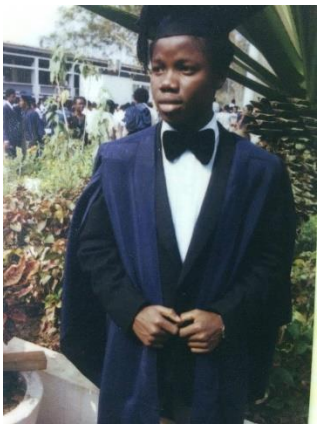



Figure 25a and b: January 1982 as a JAMBITE and 1995 on the railings of UCH Surgery Floor as a Senior Registrar in 1995

I entered the University of Ibadan after doing the external General Certificate of Education (GCE) in 1980 and Joint Admissions and Matriculation Board (JAMB) in 1981. I served at the Military Hospital Ibadan **1988-1989** and returned for my specialty training in Surgery initially for six months at the UITH, Ilorin before proceeding again to the University College Hospital, Ibadan for Surgery. **Prof Shokunbi** and **Prof Malomo (who was then my Senior Registrar as I was a Registrar)** believed and I think they were right that I was underutilizing my potentials as their Resident but they drove me too hard. The Department of Surgery in Ibadan was a very tough place to train but it brought me out as an accomplished surgeon (**Figure 25**).

5. My Contributions (Research, Teaching and Training and Community Service around the World)

My first research effort was with **Prof O G Ajao** (**Fig 18**) and **Prof Shokunbi** (**Fig 15)**. Tuberculous enteritis with 21 intestinal perforations [**6**] and Mortality in childhood Head Injury in Ibadan [**7**], respectively. Tuberculous perforations were rarely multiple but we found 21 in one patient and did a case report on this. In the other paper, we examined why children died following a head injury even though generally their outcome was better than adults. In the early 1990 years, there was no lap top, no internet, no search engine and no mobile phones as we have them now. The literature search had to be manually done with ***Index Medicus*** in the UCH Library and so I learned how to write first drafts of the papers and produce references. These helped my promotion to Senior Lecturer grade at University of Ilorin for the 2000 year promotion having been employed as Lecturer 1 in 1997. I had qualified as a surgeon in 1996 and I took up appointment as a Consultant Surgeon at EKO Hospital before relocating to the University of Ilorin as Lecturer 1. **Mr Obiora was my boss**.

Fig 26: With Mr Obiora FRCS, Joint-MD, EKO Hospitals, Ikeja

My part II Fellowship Thesis initially prepared for the National Postgraduate Medical College on Multiple Trauma was adapted for research in Trauma in 1999 when the **Centre for Injury Research and Safety Prevention (CIRASP**) was formed. My next contribution was the establishment of this **unique centre that has the longest registry of injuries in Nigeria by any hospital—from 1999 till date**. In 16 years it had registered more than 25,000 patients. It gave rise to may publications on injury and later the **African Journal of Trauma—the first of its kind in Africa** . Many tertiary centres began to open up their trauma statistics after our efforts at Ilorin, or the coincidence was too obvious to be ignored. Indeed, the journal exposed the weaknesses in Intensive Care Services across the country. We expanded on the discovery by **Dr William Haddon** and used his matrix for Nigeria.

We presented our research findings at National or Regional, African and World Conferences in 2003, 2004 and 2006. [**References 1,2, 8-10]**. Let me explain a few of these findings from our research and indeed corroboration by the World Health organization which then appointed me a **WHO Temporary Adviser** on Injuries. We were in **Cairo, Egypt; Brazzaville, Congo; Durban, South Africa; Rie Janeiro, Brazil; Vienna, Austria and a host of other countries like the Republic of Mauritius, India Ocean** to spread the word on injury treatment and prevention. Of all the countries we had been to, we could not locate where to categorise what a Canadian researcher later told me could be called “criminal host”. Where do you classify someone who throws a tyre or wheel on an approaching vehicle so it could have an RTC and then occupants could be robbed or the story of the driver who was asked to run over passengers who had been forced to alight from their bus and made to lay on the road to be run over. No country in the world marched this kind of wickedness.

Figure 27: Gruesome sight of persons crushed by a bus on Benin-Ore Road—the so called "criminal host" that cannot be captured by Haddon Matrix.

If I can sum up my entire research life, it would be that **I was not comfortable with waiting in the hospital to receive trauma patients and there was the need** to do ***something better and cheaper*** to care for the greater majority. **The only thing in healthcare that is cheaper than cure is PREVENTION**. **The only way in healthcare to care for the greater majority is to look at the public health approach** to a disease. This is what I have done constituting about two thirds of my research efforts with great dividends—**my contributions have led to preserving limbs, lives and dreams which otherwise would have been lost. Obviously, dreams die on Nigerian roads**. Thus, trauma surgery should include a new branch that can be referred to as **Public Health Surgery**.

Table 3 Summary of my Odyssey in the Orthopaedic Research World

(Trauma, Bone and Joint infections, Diabetic Foot, Bone Tumours and Medical Education)

Table 3: Summary of my Research contributions to knowledge		
Serial No	**Thematic areas**	**Relevant papers (see References section)**
1.	**Anatomy of injuries** (Epidemiology—quantum, age, sex, occupational distribution of morbidity and mortality)	1, 2, 8, ,12, 15, 16
2.	**Types of injuries** (Road, Gunshot, Burns, Violent injuries etc)	9,13, 25, 51, 53, 58
3	The five phases of injury ***Epidemiology (see 1 above)** ***Pre-hospital care (**who brings patients to hospital, EMS**)**	7, 10, 17, 18, 19, 20, 22, 23, 27,

	***Emergency Room reception** (plus Brought-in-Dead patients, Preventable Trauma deaths) ***In-hospital care** (plus Organization of trauma care) ***Rehabilitation** (including amputation, osteomyelitis, spinal cord injuries,)	
4	**Cultural variance of care**—The Traditional Bone Setters (TBS) and their menace or controversial integration?	28, 29,
5	**Special forms of vehicular transport**—Motorcycles and Tricycles—collision types described	25, 26,
6	**Other areas of research** NON-TRAUMA (**Tuberculosis spine, Diabetic Foot, Classification of osteomyelitis, Non-Trauma Emergencies, Angular deformities of the knee—Bow and K-legs; Medical Education—Literature search and conference presentations; Cardiopulmonary Resuscitation CPR, Cancers, etc**	29, 32, 33, 34, 35, 36, 41, 46,47,
7	**Advocacies**—establishment of African Journal of Trauma; Non-Governmental Organisations (IPIFA, ISVIP), the **Haddon's Matrix**, the **Criminal Host !**	53, 54, 55, 56,
8.	**Conferences, Travels and Training others to be specialists**	

Mr Vice-Chancellor sir, members of the Town and Gown, I have an impossible task of summarizing the over 60 publications I have been involved in, with nearly 30 of them cited in **Pubmed, in one hour**. I would refer you to Table 3 which encapsulates my research efforts and their significant contributions to knowledge in their thematic areas. I shall illustrate with some areas within the ambit of the time available.

A. Injuries and injuries prevention (Why an Orthopaedic surgeon must practice Public health Surgery)

Three quotes from eminent surgeons would illustrate my role in this thematic area.

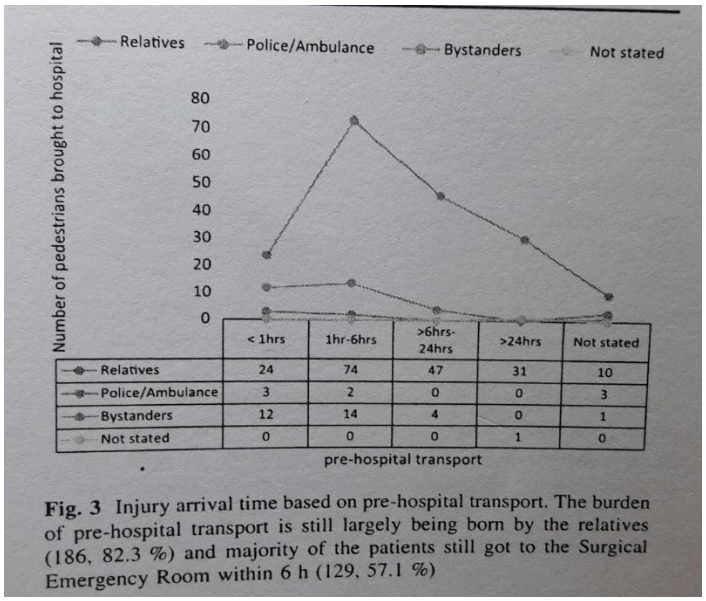
> ***"We must assume the lead role in designing a strategic plan for the prevention and care of injuries…. And bring together all interested parties in one organisation"***
>
> Stewart Hamilton, University of Alberta, Edmonton, Canada.
> President, Trauma Association of Canada 1990

> "*Since we are the ones who must clean up the damage and watch the eyes glaze over, we probably have the **most motivation** to see to it that trauma is stopped or at least limited."*
>
> **Thomas K. Hunt 1980 (San Francisco, CA)**

"Road Traffic accidents would assume an epidemic proportion in years to come"

Adeloye A and Odeku EL. 1970 (probably the first surgeons in Nigeria to write on RTI and its effects. [**11**]. Their prediction has come true.

If we had a room with a leaking roof and the room was flooded regularly after each rain, what would be the smartest thing to do to obtain a dry floor—keeping on mopping the floor each time or looking up to know that as much as we mop the floor we must attend to the leaking roof [**12**]. Dreams die on Nigerian roads. We have witnessed a **President like Shagari** who lost four children, **Governors like El Rufai** and others who lost children too or got themselves injured, Ministers like **Ocholi** who died and lost wife and children as well, **Commissioners**, **Traditional rulers** like Oba Orile Iwu who died along with his wife, **Doctors** like our six colleagues from Ekiti who died on their way to Sokoto for the 2016 **Nigerian Medical Association conference**, **Journalists** like NUJ officers who died between Ondo and Ore, **Lecturers** like ASUU former President Iyayi on his way to Abuja, **Artists** like **Dagrin**—the Yoruba rap star, **market women and men** and just name it; ***indeed, it might be safe to declare that there is no one in this hall who has not lost or got injured a friend, a neighbour or a relative to injuries especially from the road***. Communal or religious riots or clashes in some parts of the North or the resolved **Ife-Modakeke riots** [**13, 14**]. If the victim did not die, he/she faces the grim reality of poor pre-hospital transport, inefficient and ineffective emergency room reception, in-hospital care or poor rehabilitation. **We have a great task for our nation**.



	< 1hrs	1hr-6hrs	>6hrs-24hrs	>24hrs	Not stated
Relatives	24	74	47	31	10
Police/Ambulance	3	2	0	0	3
Bystanders	12	14	4	0	1
Not stated	0	0	0	1	0

Fig. 3 Injury arrival time based on pre-hospital transport. The burden of pre-hospital transport is still largely being born by the relatives (186, 82.3 %) and majority of the patients still got to the Surgical Emergency Room within 6 h (129, 57.1 %)

Figure 28

We had proposed models for improved care [**15,16]** and discovered ***three persons who bring the injured victim*** to the hospital [**17,18**]. We studied the relative efficiencies of the three groups [**18-20**]

and found that relatives or friends are the most efficient and indeed the group that bring the highest number of patients to the hospital. (**Figure 28**)

Figure 29a and b

Our road travels include using articulated vehicles that lump humans, animals and farm produce together in open lorries or trucks. We discovered that at least 20% of spinal cord injuries were from such avoidable means of transport [**9, Figure 25**]. Simple legislation would stop this.

Figure 30: (**20% of Spinal Cord injuries occurred through this method of road transportation Ref 9).**

Figure 31

In developed climes, there is the **Emergency Medical Services (EMS**) system and in Nigeria we have tried in vain to establish "only" efficient and effective ambulance services. The Lagos State Ambulance Services (**LASAMBUS**) is an example, with ambulance points in a few places but not working 24 hours. Despite the efforts of the operatives; it is unable to respond fast enough and had resulted in citizens venting their anger on the agency unfairly. It has been reported to be serving government programmes 60% of the time, rather than the people who were the purposes of its establishment [**21**]. In spite of everything, **LASG**, just on the 11th of August 2016 commissioned a Helipad in the Teaching Hospital, LASUTH) **Figure 31.**

Figure 32 Additionally, a 34 bed Critical Care Unit (CCU) was established (**Figure 32)**. Things are looking up in Lagos State with these developments in emergency services. The first state or government in Nigeria to establish an air ambulance in Nigeria. Lagos State also has a field ambulance complete with operative room facilities (**Figure 33**).

Figure 33

The closest tertiary hospital to the busiest airport in West Africa, and one of busiest in Africa—the Murtala Mohammed International Airport Lagos (LOS) is our hospital. The LASUTH must be ready for major disasters like a plane crash which experience had shown is not a rarity. Twice in two years, the

hospital was caught napping to respond to plane crashes near or at the airport—Dana Air and the private jet conveying the body of a former Governor of Ondo State.

Figure 34, (See Table 2 also)

Figure 35

We found sadly that preventable trauma deaths in our Emergency Rooms can be as high as 73.7% as we discovered at the UITH in 2003 [22]. No hospital in Nigeria has been bold enough to publish its findings in this area or carry out such damning audit. It is hoped that evidence rather than politics would be used in picking officers for our emergency rooms. **I have been sacked five times and five times I had got my job back. Yet I always did my job with positive testimonials at both Ilorin and Ikeja.** Empirical evidence for an improved trauma care in our environment is the entity of **Brought-in-Dead (BID) patients**. It is unknown how many of them were alive when setting out to be referred to our facility but a high rate as much as 180 BIDs in one year is deserving of being revealed by research [**23**].

We believed that a problem known is a problem half solved so we placed a searchlight on the RTI issues using initially personal funds. Its anatomy and the various phases. We know who it affects predominantly. The bread winner member of the family; male, young vibrant productive member of

the work force, students and workers alike [**8**]. Females are prominent mainly in the first decade when they are pedestrian young girls either hawking on the streets or on a family errand as pedestrians [**Figure 36**]. Indeed there is an epidemic of pedestrian injury in Lagos based on the report from ikeja alone with a **9.8 %** death rate even without accounting for severity of injuries [**19**, **20**]. **We had described the four mechanisms of pedestrian injuries (crossing the rod, walking along the pavement, standing at the bus stop, being in front of the house or shop) as well as the four reasons pedestrians walk in developing countries as opposed to only two reasons pedestrians walk in developed countries**[**19**, **20**]. In Lagos, pedestrians are on the road for social human connections and recreation (visits to stadium, mosques, church, cinema or families especially during celebrations); in the course of pursuing personal growth and learning; to deliver goods or engage in street trading and to render professional services unlike leisure and health related reasons in the former where rates are declining.

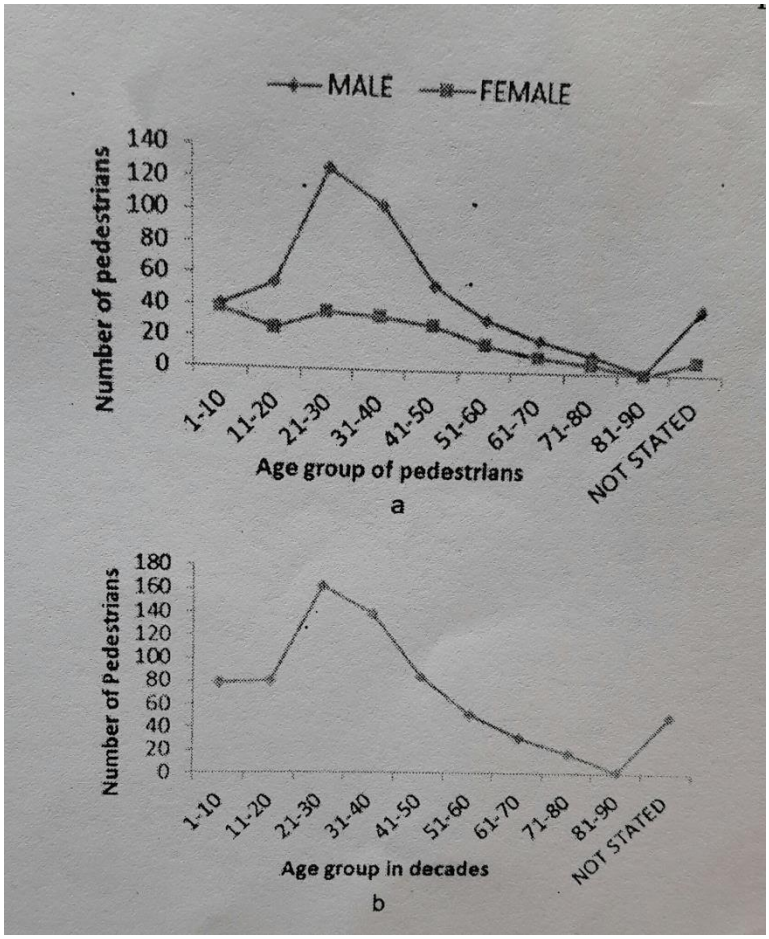


Figure 36

In the course of 1966, **Dr William Haddon**—a physician and an engineer-- introduced a matrix that combined **hosts** (drivers, pedestrians and passengers), **vehicles** (bicycles —pedal cycles, motor cycles, cars, lorries and articulated vehicles) and **environment** (the road furniture and infrastructure) with spatial split of the road injury into pre-crash, crash and post-crash phases. The overall aim has been to identify and implement points of prevention of injury.

Table 4: Haddon's Matrix

	Hosts	**Vehicles**	**Environment**
Pre-crash	**Education, legislation, enforcement**	**Vehicle engineering, bumpers,**	**Road engineering** **Road signs** **Day/ night, Rains, etc)** **Protection**
Crash	**USE OF RESTRAINTS IMPAIRMENT (crash helmets)**	**Vehicle engineering: seat belt, air bags, side impact**	**Protection barriers** **Pedestrian crossings** **Obstructions** **Pot holes** **Booby traps**
Post-crash	**Pre-morbid state** **First aid skills** **Access to paramedics/ EMS &** **Hospital Care**	**Fire Risk** **Glass (fibre)** **Body (plastic not metallic)** **Ease of access**	**Rescue facilities,** **Congestion**

? No place to place "criminal host" that is peculiar to Nigeria

For us to implement successfully the globally useful Haddon's Matrix, we must be helped by local statistics-hence our research findings in this area. **Children, Pedestrians, motorcyclists are vulnerable road users (hosts) and their statistics contribute to the huge numbers**. Berger and Mohan [**24**] had suggested rapid motorization and inadequate road infrastructure as being responsible for these high numbers. Our study of motorcycle injuries (MCI) had received not less than **138 citations globally** (**Figure 37**).

We described for the first time types of collisions by motorcyclists and we found the most fatal being motorcyclist-motorcyclist collision [**25, 26**]. The most common was motorcycle-other vehicle collision while the others were motorcycle-pedestrian and lone crashes. We also formulated the four reasons motorcycles are used in Lagos—to beat traffic jams, may be the only means of motorised transport for a part or the whole of a journey, for commercial **reasons (riders earn up to N30,000 as compared to national minimum wage of N18,000 per month**) and that they are cheap to acquire brand new. Government had placed some controls on the use of the motorcycles from certain highways in Lagos especially since many of the users are averse to the use of crash helmet as a means of protection and due to reckless driving. Head injury is easily a common cause of death both for pedestrians and motorcyclists. Extremity injuries are also common. We must stop this carnage. All of us.

Figure 38 a-f: everything imaginable has been carried on the motorcycle—are we so lawless, care free and yet these constitute the greatest danger to the victims as well as other road users.

It would appear that the use of helmet has political connotations as even in the United States of America when some users challenged the government on banning their rights to use or not to use helmets several states began to repeal the law. It so happened in Nigeria as well when the Shehu Shagari government in 1979 repealed the helmet law soon after it took over from the preceding military government. Although we found a reduction in deaths and injuries after the 2012 Traffic Law in Lagos, we found that other injuries were on the increase (injuries from tricycles and cars) suggesting that banning the okada was a superficial solution of throwing the baby and the bath water away because we showed that the motorcycle was useful in so many ways (unpublished data). More studies are needed here.

Additionally, in order to follow priorities since we do not have all the funds for prevention efforts, we **looked at the top two most common problems amongst hosts, vehicles and environment such that with limited resources we can be focused in RTI prevention [27].** For hosts which contributed about 70% of the causes of crashes, the top two are excessive speeding and driver fatigue. For vehicles it is due to burst tyres and brake failure while environmental contribution include obstacles on the road and pot holes. Are our Road Safety organisations making use of research findings to guide its operations?

This was what killed Dagrin—yoruba rap artist, alleged drink-drive, hitting a stationary vehicle, absent pre-hospital care and rudimentary health attention. All of these can be prevented and improved upon. We have work to do but we have started.

B. The Traditional Bonesetters (TBS)

To compound the injury labyrinth, traditional means of bone setting is highly popular among the natives. The traditional bone setters (TBS) keep the orthopaedic surgeons busy in their practices. In **a study of 295 patients** who had visited the TBS and re-presenting to the hospital thereafter;

representing 23.1% of patients with fractures of various types, 74.9% of the patients were persuaded by others to visit the TBS than by self-inclination (25.1%) [**28, 29**]. But after spending time and money with the TBS, 197 (66.7%) voluntarily discharged themselves. Nearly half of the TBS patients (137, 47.8%) visited another TBS after discharge from one. **It is instructive to note that 118 (40%) had been at orthodox hospital before visiting the TBS**. We coined the term ***internal locus of control*** for self-decision at discharge and ***external locus of control*** for others influencing the visit to the TBS. This is at the heart of popularity of the TBS. ***They now use canvassers*** stationed at the orthodox hospitals and indeed devised derogatory names for some hospitals as being "centres of amputation". Of course the gangrene coming from the TBS would lead to amputation at the orthodox hospital and indeed some fractures are beyond redemption and amputation is the appropriate treatment followed by use of prosthesis. (**Figures 39 and 40**). **Despite everything, more people patronize orthodox hospitals than the TBS and the great faith of the people** in the TBS is met with huge disappointment as 66.7% discharge from their facility. The Town and Gown would find these facts astonishing but that is research at its best evidence.

Table 1 Patients' beliefs or reasons for choosing the traditional bone-setters (TBS)

Beliefs/reasons	*No. of patients (%, n=295)*
TBS is cheaper	107 (36.3%)
Faster healing from TBS	60 (20.3%)
Frustrations from orthodox hospitals	35 (11.9%)
TBS is better	29 (9.9%)
TBS came to give home treatment	24 (8.1%)
Fracture was believed to be minor, which TBS could handle	21 (7.1%)
No reason, just preferred TBS	19 (6.4%)
Total	295 (100.0%)

Figure 39

Table 2 Complications seen at presentation

Complications	*No. of patients (%, n=295)*
Malunited fracture	113 (38.3%)
Non-union	59 (20.0%)
Delayed union	51 (17.3%)
Infection (infected non-union, post-traumatic osteomyelitis)	46 (15.6%)
Extremity gangrene	14 (4.7%)
Malunion+non-union in multiple fractures	12 (4.1%)
Total	295 (100.0%)

Figure 40

There are TBS in all parts of Nigeria. They are most prevalent in the North and hospital amputation rate is **39.6%** as reported by Garba et al **[30].** Katchy et al reported 25% at Enugu, Eastern Nigeria [**31**] while Solagberu reported 5.2% from Ilorin [**28**].

Note the risks of bone infection, tetanus and other complications of fracture. The public is not aware of all this—and as they say, half knowledge is worse than no knowledge. Neither we nor TBS heal fractures. Fractures heal naturally but a trained orthopaedic surgeon who understands knowledge of anatomy and has undergone surgical training is in a better position to treat fractures. I must warn that there are some orthodox doctors who rae not trained orthopaedic surgeons who dabble into fracture treatment. These may be general practitioners or non-orthopaedic surgeons. Some are inexperienced and their ego would not let them consult their colleagues. Again, no one is perfect, and more so in our environment where equipment and monitors are lacking and a surgeon is doing the best he could. Examples include using a wire to tie bone together. We saw this twice so it could not be a mistake but blatant disregard for rules and lack of respect for the patients. Fortunately or unfortunately, the culprits get away with these maladies without law suits.

Figure 41 a and b: TBS in practice. Poor knowledge of horizontal forces and no knowledge of vertical forces demanding tractions sometimes. Not surprising, huge numbers of overlap and malunions, etc.

Bad practices from some orthodox doctors may be encouraging the tales of woe from the TBS. The patients who suffered untold hardships visiting a TBS would not be a loyal customer to orthodox practice whereas the "lucky" customer from a TBS would continue to preach their usefulness.

Figure 42: "Criminal wiring of humeral fracture"

Figure 43: another criminal wiring had repeated itself. How many more were unleashed on the society with no sanctions.

C. A new Classification of osteomyelitis for developing countries [32]—Solagberu classification of osteomyelitis Figure 44.

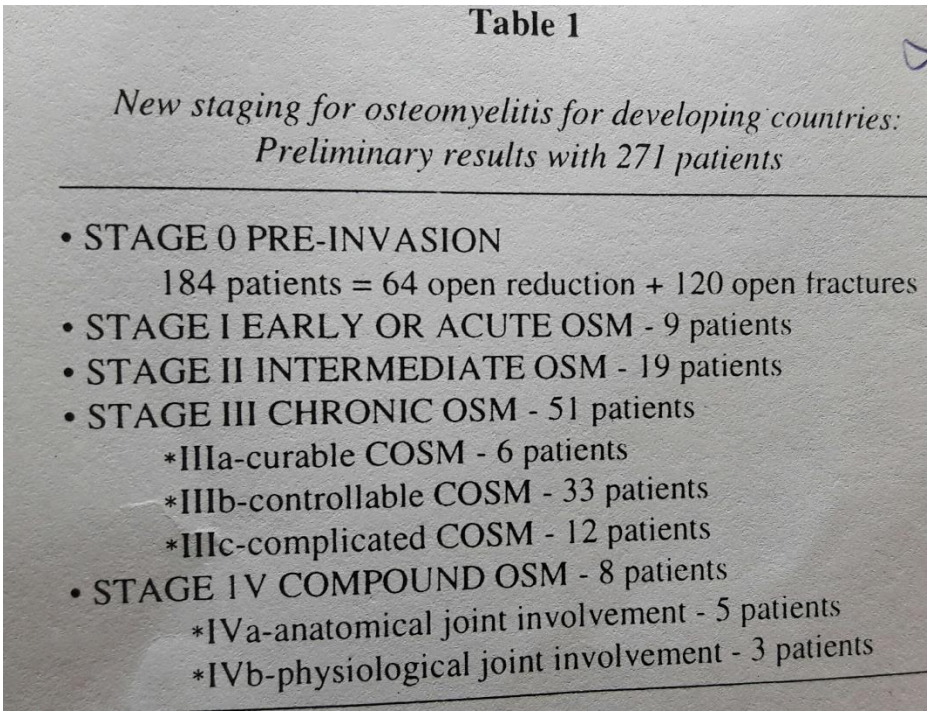


Table 1

New staging for osteomyelitis for developing countries: Preliminary results with 271 patients

- STAGE 0 PRE-INVASION
  184 patients = 64 open reduction + 120 open fractures
- STAGE I EARLY OR ACUTE OSM - 9 patients
- STAGE II INTERMEDIATE OSM - 19 patients
- STAGE III CHRONIC OSM - 51 patients
  - *IIIa-curable COSM - 6 patients
  - *IIIb-controllable COSM - 33 patients
  - *IIIc-complicated COSM - 12 patients
- STAGE 1V COMPOUND OSM - 8 patients
  - *IVa-anatomical joint involvement - 5 patients
  - *IVb-physiological joint involvement - 3 patients

Figure 44

I am proud to have this classification named after me. It has found its way into books and many scientific articles refer to it as **Solagberu classification of osteomyelitis**. We in the third world experience osteomyelitis much more than the developed countries for a variety of reasons [**33**]. Indeed, following successful treatments of many patients who did not deserve their osteomyelitis (**stage 0**) and those with

acute stages needing aggressive treatment not delivered by the primary care physicians and the previously undescribed intermediate osteomyelitis—being the watershed between acute and chronic disease, these clinical conditions were matched with their radiographic findings and appropriate treatments were prescribed in a new classification not captured by existing ones as shown in **Figures 45-48**.

It is trite in clinical practice that the existence of numerous classifications of a disease suggests increasing clarity and/or lack of satisfaction with older ones. Thus, I have added my voice to this aspect of bone and joint infections. More importantly, adherence to the logic of the classification would save so many bones from infection or produce the urgently needed control or cure as applicable. The disaster of bone infection, now considered a disease of poverty when it is haematogenous in origin, can be likened to a mild cancer as it never leaves the sufferer (recurrent) and it leaves in its trail so much emotional dissatisfaction and deformity.

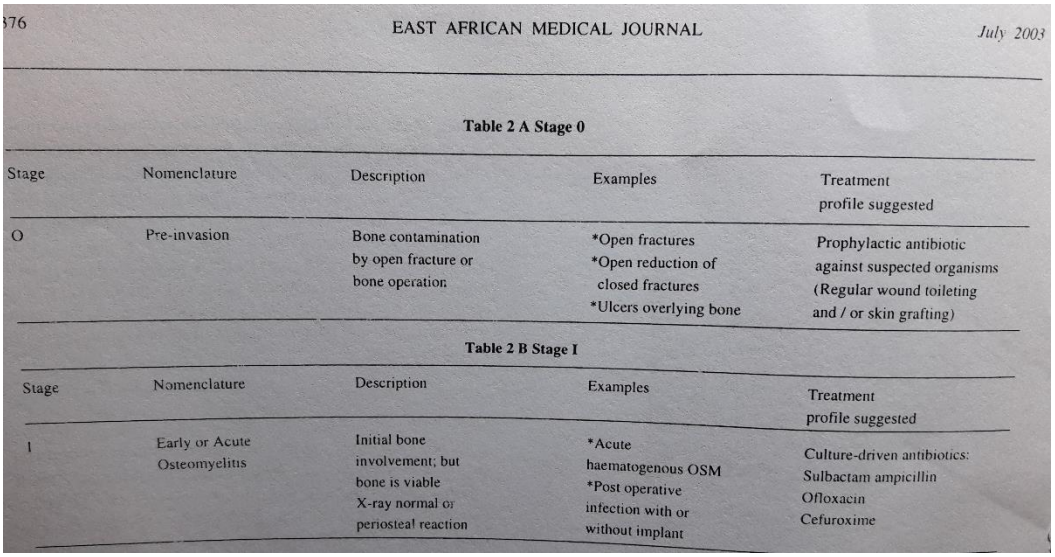


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Table 2 A Stage 0

Stage	Nomenclature	Description	Examples	Treatment profile suggested
O	Pre-invasion	Bone contamination by open fracture or bone operation	*Open fractures *Open reduction of closed fractures *Ulcers overlying bone	Prophylactic antibiotic against suspected organisms (Regular wound toileting and / or skin grafting)

Table 2 B Stage I

Stage	Nomenclature	Description	Examples	Treatment profile suggested
I	Early or Acute Osteomyelitis	Initial bone involvement; but bone is viable X-ray normal or periosteal reaction	*Acute haematogenous OSM *Post operative infection with or without implant	Culture-driven antibiotics: Sulbactam ampicillin Ofloxacin Cefuroxime

Fig 45

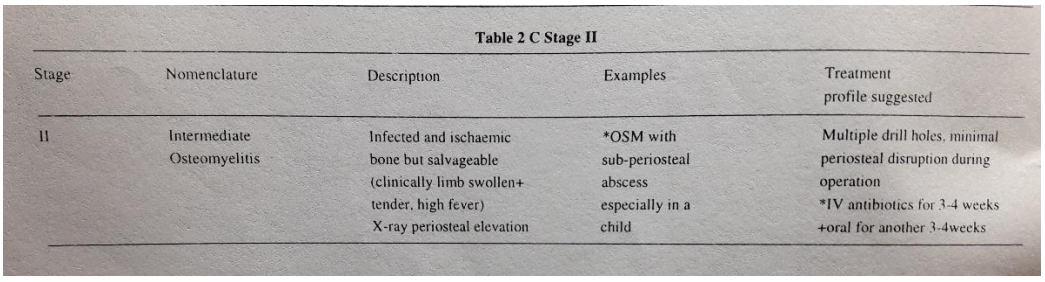


Table 2 C Stage II

Stage	Nomenclature	Description	Examples	Treatment profile suggested
II	Intermediate Osteomyelitis	Infected and ischaemic bone but salvageable (clinically limb swollen+ tender, high fever) X-ray periosteal elevation	*OSM with sub-periosteal abscess especially in a child	Multiple drill holes, minimal periosteal disruption during operation *IV antibiotics for 3-4 weeks +oral for another 3-4weeks

Fig 46

Table 2 D Stage III

Stage	Nomenclature	Description	Examples	Treatment profile suggested
III	Late or Chronic OSM	Various stages of sequestrum formation		
(a)		(a) Curable OSM	(a) Localized OSM in mid-segment of fibula or radius or ulna in a child	(a)Excision of bone ,curettage of periosteum in a child
(b)		(b)Controllable OSM	(b) X-ray:Long/Large sequestrum (Bone in bone appearance)	b)Saucerisation+sequestrectomy, Muscle flaps, cancellous bone graft, curettage, suture woud primarily Papineu technique, Belfast procedure
(c)		(c)Complicated OSM	(c) Pathological fracture, infected non-union, malunited chronic OSM	(c)As in (b) essentially

Fig 47

Table 2 E: Stage IV

Stage	Nomenclature	Description	Examples	Treatment profile suggested
IV	Compound chronic	Chronic OSM with joint involvement	(a)Septic arthritis complicating(long bone)chronic OSM	Open arthrotomy and appropriate procedure for OSM
(a)	OSM	(a) Anatomical septic arthritis		
(b)		(b) Physiological	(b)Joint contactures from fibrotic muscles	(b)No appropriate satisfactory treatment available, tendon release being evaluated

Fig 48

Fig 49

D. Tuberculosis of the Spine (TB Spine)

We reported the biphasic distribution of TB spine in Ilorin to guide TB control [**34**]. Even though the majority were in the first decade, there is a reservoir of TB in the seventh decade that must be eradicated for total control. Tuberculosis was part of the MDGs and now also in the new SDGs.

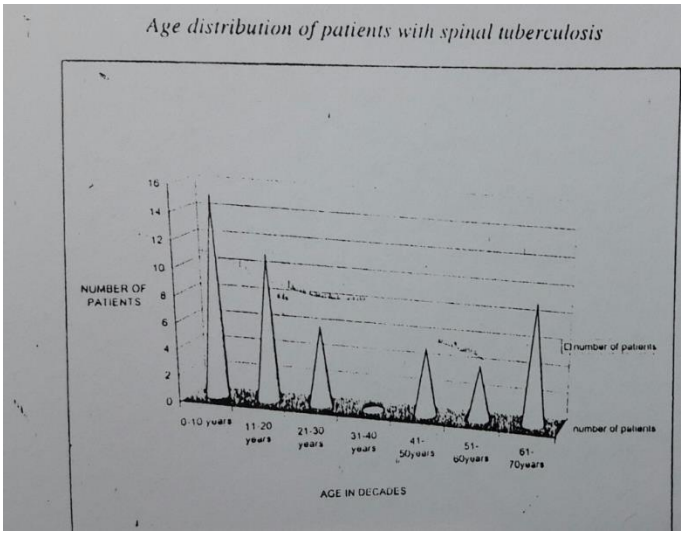


Figure 50.

E. The Diabetic Foot and amputation surgery

Diabetic foot (DF) disease requires multidisciplinary team approach. We noticed that amputation trend in the country had changed but had not been documented. In the 1960s and 1970s, amputation was being done in the hierarchy of Trauma, Infections and Diabetes. In the 1990s due to increasing incidence of Diabetes, it climbed up to a second position after trauma. We were probably the first to document this in Nigeria even though it was being appreciated by many surgeons [**35, 36**]. This is research vigilance. In the 1950s, **Vink and Angawa** [**37**] reported that Diabetes Mellitus (DM) was rare in Africa; **Kinnear** in 1963 [**38**] found only 309 patients out of 80,000 admissions (0.39%) at the University College Hospital (UCH) Ibadan and declared that **"diabetes is not at present a very common disease in Nigeria".** Half a century later, DM has commanded a pre-eminent position and latest reports by colleagues from Ebute Metta [**39**] and from LASUTH (unpublished report by our team) found DM has the number one cause of extremity amputation in our environment.

We have a lot of work to do to prevent our people from losing their extremities to this deadly disease. Another unpublished work by us revealed that physicians were not looking at the feet of the patients adequately as we found that many of the patients attending the diabetes clinic reported in risky foot wears that should make DF predictable and detected earlier. We should not give DM an inch otherwise it would take a foot—so preached Lording [**40**]. In our environment with poor prosthetic use following amputation (less than 5% as compared to the United Kingdom with more than 60% use), prevention should actually be the way to go [**41, 42**]. The DF gangrene presented as an emergency was one of the non-trauma emergencies we discovered in the

Emergency Room [**43, 44**]. This group represented some 30% of all emergencies including acute urinary retention that should make for better planning of services and acquisition of consumables, personnel planning in the ER.

At Ilorin, our work met great help from a Kwaran resident in the UK then and who imported dozens of various prosthetics for the use of our amputees—**the late Mr Afolayan**. May his soul rest in perfect peace (**Figure 51**).

F. Angular deformities of the Knee

Orthopaedics actually derived its meaning from two Greek words: "***Ortho***" and "***Paidiea***" meaning "***straight***" and "***child***" respectively. It appears the earliest practices were prominently about ensuring that the spine and extremities especially the knees of a child are straight. I did no work on the spine disorder (scoliosis) other than spine injury and TB but I extensively treated children with "bow legs" and "K-legs" also known as ***genu varum*** and ***genu valgum***. More often than not it is the mother we treat who keep impressing on us the need to do something for this child even when the most common reason for this deformity is growth and development in action.

A child's knees passes through bow leg first between ages 1-3 and later K-leg from 2-5 and extending to 7 years in some girls. What we do is to first determine that the change in shape is from a normal bone or from a diseased bone (rickets, Blount's disease, post-traumatic or congenital absence of one leg bone or another—tibia and fibula.) In the Northern part of the country, Salawu [**45**] had attributed this to women in purdah while in Ilorin [**46, 47**] and Ibadan [**48**], it is the physiological variety that is common. We use *osteotomes*, hammer (mallet) and spikes to cut the bone to re-shapen it and then hold it in a Plaster of Paris until healing ensues 6-8 weeks later. Many of the patients would not need surgery where the bones are normal.

The variety called Blount's disease often can be neglected as many families did not know something can be done about this. Late correction is fraught with dangers in the untrained or inexperienced surgeon. **Figures 44 and 45.**

Figure 52a, b and c: Rickets

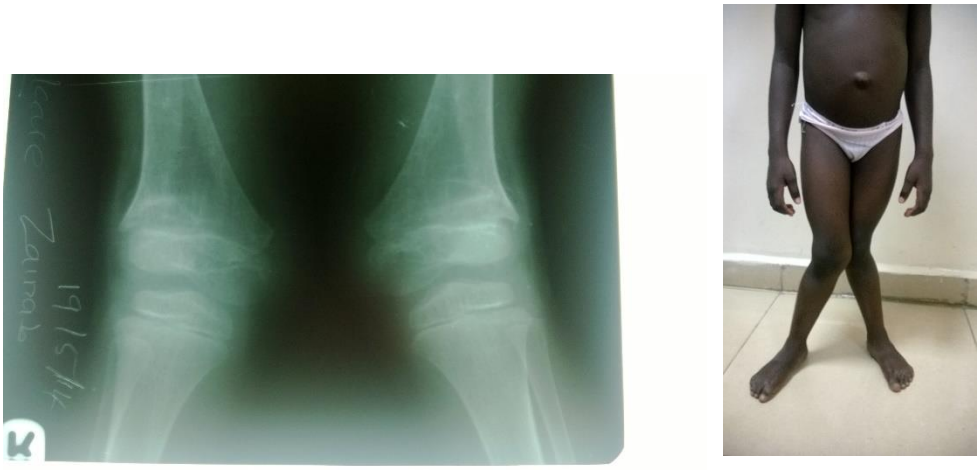


Figure 53 a and b : Physiological deviation causing K-leg.

G. Bone Carpenter, Orthopaedics and Instrumentation (medieval ad modern).

We have seen the various deformities and aberrations of sizes of bone as a result of disease which drugs alone cannot treat, hence the need for surgery. To correct the shape of bone, we need ***osteotomes***, banged in by a ***hammer*** and some ***chisel*** to shave off extra bone from the cortex without cutting the bone. ***Gouges*** are also used as needed. When fixing fractures, we need drills to make holes into bones and bone clamps to secure the ***plate*** on the bone and ***screws and screw drivers*** to secure the screws. These instruments are like the wood carpenters instruments, hence orthopods are sometimes called bone carpenters to drive home the point about precision. Indeed we are more than bone carpenters, since the bone must be alive to do the work. Hence, we use a ***bone nibbler*** to chop off bone ends until they bleed before we are convinced to fix the pieces together otherwise we will court either **non-union** or ***sequestrum*** formation leading to **infected non-union**.

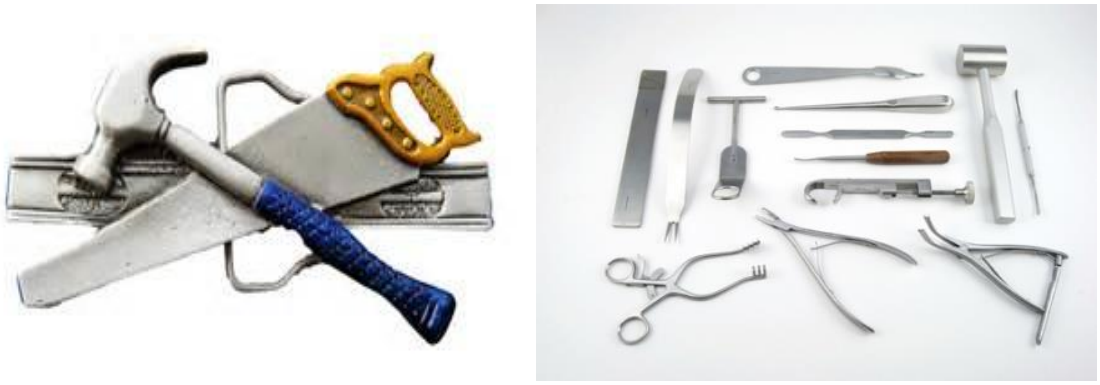


Figure 55a Carpenters' tools and 55b Orthopaedic surgeons' instrunments

Figure 56: powered tools and hand saw, manual mallet

H. Advantages of operative management of fractures and others [49]

Fractures are often managed non-operatively but then at the mercy of holding down other useful parts of the body until the fracture heals. Such parts include, the joints above or below the fracture, the muscles and the bone itself—they all suffer one complication or another. Joints can get stiff, muscles waste and bone becomes weaker as in osteoporosis. **Operative treatment facilitates nursing care, affords early mobilization and early return to work; and ensures the simultaneous use of all the structures that would have been held down by restrictive elements like plaster of Paris.** However, there are side-effects to operating the fractures. That is the domain of training to reduce or eliminate complications. Cost is one, and risk of infection or failure of fracture healing—all of them preventable in trained hands. Indeed there are fractures that only operative means are pursued. There is no other acceptable way of treating them than by operative reduction and fixation whether internal or external fixation. Hip fractures and open fractures are examples. This is another area of clear advantage of the orthopaedic surgeon over and above the TBS.

As part of evaluation of myself and a historical development of the UITH which had never had a plastic surgeon in 1997 when I got there and which was doing limited operative treatment of fractures, the following results were obtained in 1998 and compared to 1997 when I was not on ground. In the last 10 years, Ilorin Teaching Hospital now has Plastic and Reconstructive surgeons who carry out flaps of all grades which was out of my lane then. Historical documentations like I had done would be useful in constructing the history of the hospital [**49**].

OUTCOME OF FRACTURE TREATMENT BY EARLY OPERATIVE REDUCTION

Table 1: Showing Types of Operations Done in 1997 and 1998

Type of operation	Year of operation	
	1997	1998
Sequestrectomy	21 (26.6 %)	19 (10.9 %)
Amputations	10 (12.7 %)	10 (5.8 %)
Corrective osteotomy	10 (12.7 %)	10 (5.8 %)
Operative fixation of fractures	20 (25.3 %)*	72 (41.4 %)*
Soft tissue surgery	14 (17.7 %)	34 (19.5 %)
Skin grafting	4 (5.0 %)	23 (13.2 %)
Arthrotomy	0 (0 %)	6 (3.4 %)
TOTAL	79 (100 %)	174 (100 %)

Figure 57

Table 2: Showing Length of Hospital Stay for Long Bone Fractures

Hospital Stay In weeks	No. of Patients 1997	No. of Patients 1998	P value
1—4	2 (3 %)	12 (15 %)	0.0156
5—8	5 (8 %)	25 (31 %)	0.0005
9—13	19 (29 %)	28 (35 %)	0.4604
14—17	26 (40 %)	10 (13 %)	0.0002
18—26	10 (15 %)	5 (6 %)	0.0724
Above 26	3 (5 %)	0 (0 %)	0.0170
TOTAL	65 (100 %)	80 (100 %)	

Figure 58

I. Medical Education and miscellaneous areas

I did some work on the practical aspect of publications by academics based on what I learnt from the more experienced hands who did not document the process. Many medical doctors attend conferences without presenting and those who did made a good showing but there was need for improvement. How to present a paper at a scientific meeting was published [**50**]. Others were on cardiopulmonary resuscitation also poorly done in practice and same finding was made [**51**]. As a forerunner to the establishment of **African Journal of Trauma** in 2003 [**52-55**], we confirmed the need for a specialized Journal on Trauma in Africa sensing that we had for **Europe and America**. It was rested for about 10 years and had resumed publications now through the help of Medknow India. [**56**]

As a member of the Court of Examiners of the West African College of Surgeons since 2005 (figure 590, I receive Residents from many parts of the country preparing for the examination who found my intervention or coaching very useful.

Figure 59: Court of Examiners (Orthopaedics) with successful candidates in the back row. Lecturer is 2nd from Right.

J. Advocacies on national, continental and Global scale.

As President of Injury Prevention Initiative for Africa (IPIFA) 2010-2013, and as Foundation member of International Society for Violence and Injury Prevention (ISVIP), I had served on organizing Committees of World Conferences on Injury. I gave a plenary speech when Africa hosted this conference in 2006 at Durban, Republic of South Africa. Other injuries like gunshots, Burns and violence also enjoyed favorable mention [**56, 57**]. I have given several Guest Lectures, dozens of them more than paper writing in the last 10 years. I was also on Radio and Television a few times on advocacies. (**Figure 60**)

Figure 60. Appeared on Channels TV

At an advocacy session with the men of the Federal Roads Safety Commission

K. Validation by my patients, students at UCH Ibadan, UNILORIN and LASUCOM ikeja.

Mr Vice-Chancellor sir, members of the Town and Gown, it is so easy to be so self-conceited and be ego-centric with what can only be termed God's gifts. I tried in my growing years to be focused at the task at hand. As I encountered many obstacles on the way, I did not lose faith. I changed course once from **neurosurgery to orthopaedics** and both families remain one sharing boundary in spine surgery or head injury and multiple injury management. Our students and patients gave me so many awards along the way that I have the privilege of sharing them with you sir.

At UCH Ibadan in 1997, the graduating students voted me the Best Dressed Resident Doctor (**Figure 60**). At the University of Ilorin Teaching Hospital, I got a similar award as a Consultant in 1999 (**Figure 61**). These were only listed in their year books. I got to LASUCOM in 2007 and six times, I have been voted by the Students as the Best Lecturer in Clinical Sciences in 2008, 2009, 2011, 2013, 2015 and 2016. The last four awards were not only listed in their year-books but were accompanied with plaques which are priceless to me. I feel fulfilled that my patients love me, my students love me, too; may be more, but I am probably not as popular among my peers and colleagues as I had to go through an **election a third time before being successful in 2016** as Provost having lost in 2010, and 2014—years I was winning with the students. I think winning the election is also some endorsement by my colleagues and I thank them for granting me a unique opportunity to serve them. It is not too soon to note the verdict after being in the saddle for six months now.

A spinal cord injured patient who walked out of the hospital and came visiting. Most of the nurses could not immediately recognize him in 2001 at UITH Ilorin.

As you may notice, I broke the tradition of leaving acknowledgement till the very end by mentioning people as I spoke. I want to thank all of you for gracing this occasion. I may have missed some names but you are no less important in my life.

Figure 61: LASUCOM LASUMSA Awards 2011, 2013, 2015 and 2016

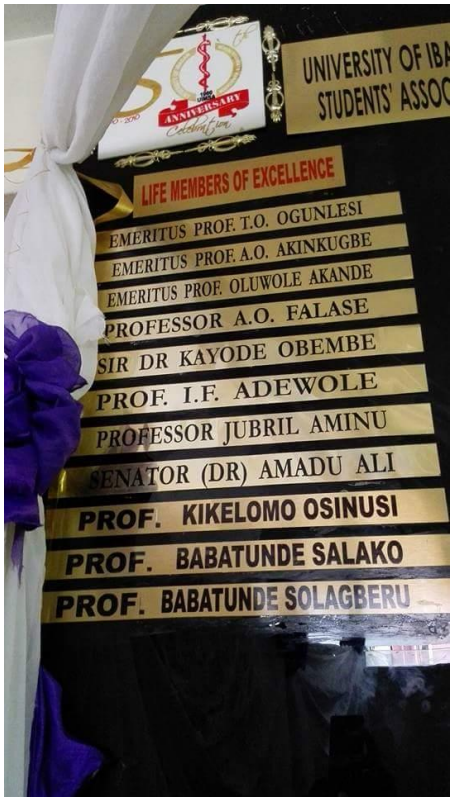


Figure 62: UIMSA UNIBADAN Awards

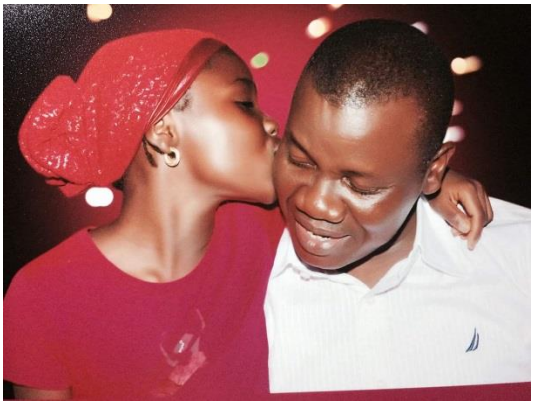
In 2016, the University of Ibadan Medical Students Association made me a Life member and along with two others engraved my name with eminent persons all who are my seniors in the profession, in the Hall of Fame.

In 2015, the entire Lagos State University Students Association, LASUSU, awarded me an Icon of Leadership Award. For all these I am most grateful to all of you.

Figure 63: Aerial view of the great UCH, Ibadan where I trained MBBS, FWACS

The great UCH, and forever great in everything but we your stars will establish greater institutions having drunk from the well of wisdom that our teachers provided for us. My inaugural today should make them feel proud that their work on me was not in vain as I have gone on to reproduce them in others as well.

I thank my daughter, my one and only daughter—**BabyQueen, Albarkha Maimunnah** and her mother—for showing me unquantifiable love even in the midst of so many patients and work assignments. Her brothers, senior and junior **(Mubarak Omo Aridunnu Babatunde and Babatunde AbdulKadri Olasubomi)** are no less involved but she is the commander around whom everything revolves in the home. She teaches me how to love my wife and she is just going to be 10 in November. She is the one that advises how to leave notes and give dinners and all that. To all who have journeyed here, God would get you back safely to your abode and I hope I have made your day, but certainly you have made mine. My siblings, cousins, nephews and nieces; I know too well you are all proud of me as you help me with the softer side of life where I am most deficient and impatient.



BabyQueen giving Daddy a peck on her 8th birthday dinner.

My young family at Baby Queen's graduation July 2016

Cousins and extended family members.

Our last born and Alhaja's pet at his First Class graduation in Computer Science. He was the young boy sucking ***Capri Sonne*** at my own convocation. The other young boy, crying because he lost his own pack has been called to the Bar at the Nigerian law School—**Barr Tajudeen**. Family is the best.

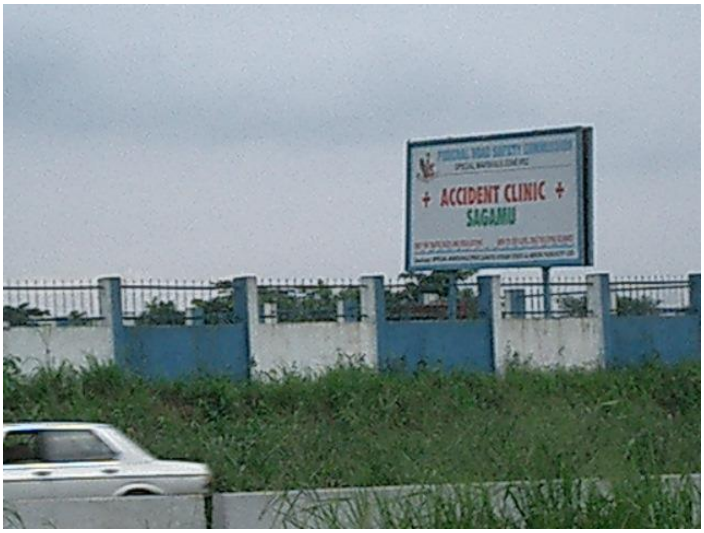
L. **Conclusion**

I no longer see myself as a Medical Doctor—but as one who restores the hopes and dreams of my patients. This keeps me humble that I must do my utmost to rescue their dreams. I must teach it and research it for posterity. Indeed as I do not see my patients as cases the way we doctors talk about them or as simply numbers. I do not say I have ten or twenty patients on admission because the one patient is someone's child, mother, father or friend. **One patient is one family** because until such a person regains full health, the entire family is sick. ***Secondly***, I do not see myself as just a lecturer in a medical field anymore but as someone who is there to facilitate the achievement of the dreams of our medical students and the resident doctors. **This is my story. May be this is why I make our students my friends and I spend good time with them. This is my song and I am fulfilled telling it and singing it**. These awards tell me I must continue to make sacrifices in the direction I have chosen for myself and properly leave a legacy that my descendants would be proud of.

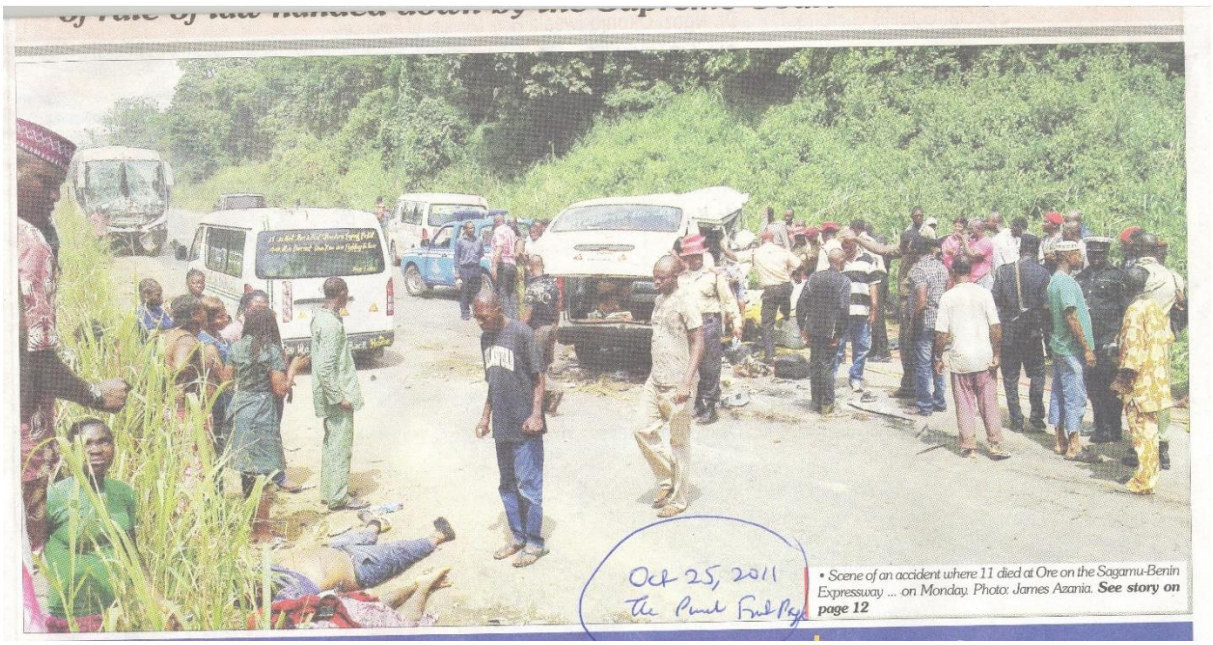
M. Recommendations (Health and Education)

The only recommendation I consider sensible is that we academics should walk our talk. Let us do more sensible research that actually makes the Town and the Gown relationship worthwhile. All my research have had a bearing on the society and influencing it in one way or another. What is left is to continue with greater advocacy and conduct further studies. Government is here urged to remain focused and fund health and education much more than it is doing at the moment. The poverty of idea being experienced in the system is a reflection of the poverty of the system. May God bless LASU, LASG and our Country. Peace to the World.

Funding would be useful to expand facilities for the teeming patients and employ more staff and for research and provision of consumables.



I have always kicked against establishment of road clinics when what was needed was fast evacuation to the numerous centres of excellence with personnel and equipment. The best that can be guaranteed in these waiting clinics meant for first aid are simple dressings and suturing and only patients with mild injuries who could travel longer distances would need these. I advocate for all our actions to be evidence based, hence the need for closer interactions between the implementors and researchers.



We are LASU, We are Proud, We are LASUCOM, the Pride of LASU, the pride of LASG.

Itesiwaju Eko Lojewa logun (the Progress of Lagos is our utmost concern)

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