

Learning with basics

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Medicine and healing came to the humans in many forms most of it by observation by our forefathers and coming to an understanding of a system comprising healing.

They observed a whole human for the same and not restricted to a part of the person; although in time; a part was also observed but after a general examination.

The many leaps medicine took were inclusive of the varied systems of the humans and not exclusive to a part. As our intelligence has increased? We have become better dissectors and having the technology to study the micro has added a vast field of bytes to our database. With this the exclusiveness of the part systems has gathered importance and the whole system at time is blurred in the vision for the exclusiveness.

With this the race against time and not living with time has been generated. Hurry in getting a skill leaves you half skilled and fast track super specialization leaves lacunae in the knowledge of the human systems. Being attracted to a superspecialization is good but to jump into the bandwagon without the temperance of doing general orthopedics is narrowing the vision to sometimes; perception blindness. It's true that the eye does not see what the mind does not know and this could lead to mistaken and misinterpreted symptoms; enforcing an incorrect diagnosis and management. So students and teachers alike are at a disadvantage when dealing with a single sub specialty alone; in encompassing and distributing the knowledge. So the mentors of the mentors are also important.

I am always at an awe of the tremendous data available on the internet and print media. I presume I will never be able to read all of these and so never know all. But even in a single specialty the written statements – soft or hard copies- will elude me. So how can I get about this knowledge encompassment without feeling left out of the data race?

Seem that the principles and the fundamentals of the knowledge base are quite standard and mostly irrefutable. A change in the basics will be the next game changer and as it will alter the basics it will alter the further ramifications of the understanding and the applications of the principles in patient care. To me all the data can be always clubbed as a specific tenant in the basic algorithm of the principles.

So to know the principles well is the important guiding force for me. The frills of the same will be made up of the various ways it can be achieved; and this would be the varied methods we find adopted by surgeons to get to the finite goal of osteosynthesis/osteon bypass- function – longevity.

Most of the orthopedics is about osteosynthesis and when using prosthesis about osteon bypass. This is well augmented by the development of the strength by physiotherapy; using aids in function and trying to achieve longevity in the end result of useful function.

Arthroplasty is a type of osteon bypass surgery wherein a living part of the joint is replaced by an inert material shaped to allow for the soft tissue sleeve to perform the required function with stability. It is a system of intraarticular part replacement to achieve inherent static stability due to its configuration and also causes

Access this article online

Website:
www.jocr.co.in

DOI:
2250-0685.1230

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required soft tissue tensioning to achieve dynamic stability while performing the function. With the advent of the FE analysis and CAD CAM and 3D printing use we are able to design the products for this with precision and test its mechanical ability before subjecting to a manufacturing cost. This will go a long way in getting the better and safer end products. It should be made a norm to test the older designs and prosthesis by these methods to eliminate the unwanted; and validate the better ones for future use. One thing which is still not always possible is to replicate the electrolyte solution bath of the normal and diseased body which will house it. So the wear rates and the long term results of these when implanted are still conjectures.

Newer bearing will be validated but till now ceramic on ceramic (hard on hard) bearing seem to be doing well. Incidentally the normal joints are compliant joints i.e. they deform and function on loading. It will be some time before such is possible in prosthesis.

Fear of infection will always stay with implantation as it being an inert substance has no defense mechanism to fight the bacterial invasion. So it will be its safe ground always even if it can be completely covered by a living tissue. Here excision arthroplasty of the joint like hip will have to be kept in mind in cases with long standing or low grade infections. The patient will always ask that what chances are that the next revision joint will not get infected and there seem to be no true answer for that.

Joint preservation surgeries still have a great role to play in the methods to preserve function and stable joints for the patients and more judicious inroads into this great exciting field must be made to allow for longer lasting joints. As in the event of the artificial joints there are restriction for the longevity of the joint function similar restriction should be mapped for the preservation surgeries.

So when to become a joint replacement surgeon?? I feel when you can tackle the unwanted fractures you could create while doing the surgery, understand that a revision surgery when required; will require the bone stock of the patient, you would want to preserve the bone maximally for the patient in primary surgery and not get enticed by bigger and larger implants; you know that limb pains could be from the spine; lesion there or from a generalized disorder which is medically treatable; that the joint replacement comes with limitations in activities, that delayed complications can still occur, that the persons strength not only the joint makes his function possible; and despite all these you can see the beauty of the better function restoration and change in the outlook of life for the patient ; you should become that replacement surgeon.

Conflict of Interest: Nil
Source of Support: None

How to Cite this Article

Joshi R. Learning with basics. Journal of Orthopaedic Case Reports 2018
Nov-Dec;8(6):Page 1-2