Paradigm Shift in Dental Sciences : Are We In It !

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The phrase “Paradigm Shift” was coined by Kuhan in 1962, to describe an irrefutable scientific discovery that leads to complete undoing of previously accepted knowledge. Once the shift is complete, it supplants old knowledge and brings in new understanding. In the practice of contemporary dentistry, the old ways of doing business is over. Today the modern treatment protocols encompass the entire stomatognathic system. Inter relationship between oral and general health involves most organ systems, with a multitude of diseases having an impact on oral health care service. New alliances and a co-operative multi disciplinary approach is the key to success.

The rapidly expanding field of dental sciences is an intellectual challenge for every practitioner, who is willing to use the scientific and artistic foundation for achieving predictable results. Meticulous integration of functional and aesthetic standards coupled with predictable post-therapeutic results, has to be a common denominator for patient care. The evolution of dental surgery in to dento-alveolar surgery, maxillofacial trauma surgery, surgical pathology, temperomandibular joint surgery to orthognathic and cleft surgery has taken a quantum leap. Today craniofacial, reconstructive and cosmetic surgery of the face is in the realms of reality [1].

Cosmetic orthodontics is replacing conventional orthodontics. The concept of invisible brace system, lingual braces and self ligating system are a reality [2]. The integration of progress in material sciences, biomedical engineering and basic clinical sciences is changing the time honoured treatment protocols.

The introduction of implant systems and development of full mouth rehabilitation in to an “Aesthetic Total Rehabilitation” were the defining moments in prosthetic rehabilitation. Soft flexible dentures to liquid supported dentures coupled with computer aided design and manufacturing technology are making great strides. Dental implants are a virtual cosmetic dentistry option, having the look and feel of natural teeth. The availability of materials resembling life like tissues, have provided a

cutting edge tool to maxillofacial prosthodontist [3].

Periodontal microsurgery and the integration of microbiological advancements have revolutionized treatment delivery options from empirical to target oriented approach. Localized drug delivery mechanism and improved surgical techniques have prolonged retention of teeth in oral cavity.

The future of dentistry lies in nanotechnology and gene therapy. Nano-materials, scaffolds of bone tissue engineering, dental tissue regeneration, genomic analyses and bio-markers will be the newer challenges for the oral-health care providers.

Where are we in the Armed Forces today? As much in forefront, as one possibly can be. We are very much a part of these newer challenges, with provision for surgically facilitated orthodontic therapy, implant and mini plate supported orthodontics, computerized surgical assessment planning and execution. Maxillo-mandibular advancement and oral appliances are being used in the management of sleep disorders [4]. We are expanding our turf into the field of distraction osteogenesis, implantology, periodontal microsurgery, maxillofacial prosthetic rehabilitation and other spheres of dental sciences. The wealth of clinical data generated through systemic archiving, can be explored to evolve advanced therapeutic models. The purpose of all clinical didactic knowledge is its application towards patient care and an improved treatment outcome. We need to remain a part of the ever changing and challenging paradigm shift.

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