Full arch implant-supported restorations

Avik Dandapat presents the options, complications and prosthetically driven treatment planning of full arch implant-supported restorations

Avik Dandapat
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With an ever-increasing population of the elderly, we are finding that there are more patients having full implant-supported restorations.

Over the past decade we have had a plethora of clinics offering all-on-four treatment and I have seen cases now requiring correction after years of function.

Often, I see treatment planning in this fascinating area of implant dentistry being very commercially driven, albeit based on clinical evidence we are still led by companies on the components and latest innovations in replacing an entire set of teeth with an implant supported fixed bridge.

With increased popularity of pterygoid and zygomatic implants, it's quite rare to see a patient having a bi-lateral sinus graft with a full arch prosthesis and the advent of angulated multi-unit abutments.

So my approach to teaching delegates the subject of treatment planning is based on a simple philosophy of prosthetically driven implant dentistry. Let me explain this concept in some detail.

Firstly, the noted aims and objectives, assuming we have a patient, approach your clinic with a upper failing dentition, be it periodontal disease, caries, physical fracture of teeth, or simply teeth that have been removed. We must establish a pathway to decide on the appropriate ethical approach.

As a matter of course it is important to take a detailed medical, dental, and social history and ascertain the factors that have led to the failure of the dentition.

Periodontal disease, for example, can lead to tooth loss, but replacement with implants has shown to have equal risks to peri-implant disease and thus is a risk factor.

Risk identification and mitigation is key to long-term success of full arch implant restorations.

A patient must be informed of the consequences of non-treatment, the fixed and removable options with implants and also the option of a denture for all cases. This discussion should be recorded in a contemporaneous way in the records.

The factors discussed in our comprehensive three-day full arch course include:

1. Cement or screw retention
2. Passivity of fit and occlusal considerations
3. Patient expectations
4. The use of visual photographs, intraoral scans and CBCT data reporting
5. 3D planning and guides
6. Same day teeth concepts and temporisation
7. Complication management
8. Consultation techniques
9. Record keeping
10. Audit and reflective learning objectives
11. Safe and ethical treatment planning
12. Costs and fee setting.

Figure 1: Try in of a full arch FP1/2 ceramic bridge

Figure 2: Checking lip support of a full-arch ceramic restoration

FP ONE, TWO OR THREE (FIXED PROSTHESIS ONE, TWO OR THREE)

I run a three-day comprehensive full arch course that is not commercially driven or implant company specific to go through the fundamental concepts of these and allow practitioners to safely place four to six implants in a patient and restore with reproducibility of a final prosthesis.

This course is aimed at dentists who place implants and wish to increase their remit of skill in providing full arch implant dentistry.

- FP1 – whereby the bridged teeth emerge from the gum
- FP2 – whereby there is 1-2mm of pink porcelain above the teeth
- FP3 – whereby there is 3-5mm of pink above the teeth.

There are many factors that dictate the prosthesis including the level of bone height available, smile line and position of the implants.

All-on-four concepts talk about the 'transition line' between the pink and the gum – how do we asses this? Do we need to on every case?

Elective removal of alveolus for this is in my opinion destructive to the patients remaining precious alveolar bone.

When, not if, the prosthesis or the implants need replacing, this remaining bone becomes vital to the next stages.

We also offer remote mentoring for up to 10 full arch cases included in the course fee.

FULL-ARCH COURSE

In conclusion our full-arch course will cover all the discussed aspects of treatment of the failing dentition using dental implants.

You will understand the treatment sequencing and protocols I have established over the past 20 years of clinical practice.

We also include a live surgical case, where we will include treatment planning from the CBCT scans and demonstrate our unique approach to comprehensive planning and consent processes.

It is essential that we understand communication with patients able to invest in an implant-supported full arch prosthesis and consent them appropriately.

It is certainly not a case of one style of treatment suits everyone.

We must be able to make a balanced plan based on clinical evidence, the patient's expectations, and formulation of a robust predictable treatment plan. D

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