FITTING CROWN TO EXISTING PARTIAL DENTURE

Here are a series of photographs to illustrate how you, when prepping a crown that has to fit an existing removable denture, can make a pattern resin matrix in the mouth that will communicate to us all that we need to know without having to send the removable denture to the lab. I.e. the patient CAN KEEP THE DENTURE IMMEDIATELY AFTER THE PREP APPT.

This method is not only more convenient for the patient... but... if done correctly... a much more accurate way of making a crown fit an existing removable denture. Sending the denture to the lab never works 100% because the lab can never make the removable denture fit a stone model exactly the same way the denture fits in the mouth, because of the patient’s soft tissue. The tissue is spongy, the stone is rigid!

One notable consequence with this method is that all areas where the denture touches the tooth/crown will be in metal... even buccal clasps! This has both advantages and disadvantages. The disadvantage is that the patient will be able to see the metal on the crown when he/she is NOT wearing the removable denture. Normally, this is not an issue for a patient since the buccal clasps will cover those areas when he/she IS wearing the denture, and the time when he/she is NOT wearing the denture is at night when aesthetics is of minimal concern. The advantage is that the contact areas between the removable denture and the new crown will be metal-to-metal! This is much better than having metal-to-porcelain! Chrome/Cobolt has a tendency to make black lines on ceramic (like pencil marks) and metal clasps and rests can even in some circumstances lead to porcelain fractures.

Here’s how to make the matrix (please note that the photos illustrate the method as done on a pin&cut model... please imagine that the model is actually the mouth):

MAKE SURE YOU CAN FIT THE DENTURE IN THE MOUTH REPEATEDLY AND PREDICTABLY INTO THE SAME POSITION. PLEASE NOTE THAT YOU SHOULD COAT THE INSIDE OF THE CLASPS AND RESTS, THE PREPPED TEETH, AND YOUR HANDS WITH VASELINE (to prevent the acrylic from sticking):
USE BURN-OUT POWDER/LIQUID ACRYLIC RESIN (NOT COMPOSITE)!!
E.G. “PATTERN RESIN LS” FROM “GC” OR EQUIVALENT:

PLACE DRY POWDER IN ONE DISH AND LIQUID IN THE OTHER. WET THE BRUSH IN THE LIQUID AND USE THE WETTED BRUSH TO PICK UP DROPS OF ACRYLIC AS ILLUSTRATED:
COAT THE TOOTH/DENTURE CONTACT AREAS WITH A THIN LAYER OF ACRYLIC. THEN SEAT THE DENTURE IN THE MOUTH BEFORE IT SETS:

HERE YOU CAN SEE THAT THE VOID BETWEEN THE DENTURE AND THE PREPPED TEETH IS COMPLETELY FILLED, AND THAT ALL THE AREAS WHERE THE DENTURE WILL COME INTO CONTACT WITH THE TOOTH IS COVERED WITH ACRYLIC RESIN:

AFTER THE PATTERN RESIN HAS SET, YOU CAN REMOVE THE DENTURE. USUALLY THE ACRYLIC RESIN PATTERN WILL STAY ON THE PREPPED TEETH. SOMETIMES IT WILL STAY ATTACHED TO THE DENTURE.
NEVERTHELESS, THE ACRYLIC RESIN MATRIX SHOULD BE EASILY REMOVABLE AND THE MATRIX SHOULD FIT NICELY ON BOTH THE PREPPED TEETH AND IN THE INSIDE THE CLASPS AND RESTS OF THE DENTURE:

IF YOU WANT TO BE SAFE, REPEAT THE PROCEDURE SO THAT YOU HAVE TWO PATTERN MATRICES! AFTER THAT, TAKE THE IMPRESSION (WITHOUT THE DENTURE) AND SEND US THE ACRYLIC PATTERN RESIN MATRIX (OR MATRICES) IN A SEPARATE CONTAINER.
THE AIM FOR US IS TO USE THE MATRIX(ES) AS AN INTEGRAL PART OF THE WAX-UP! WE WILL LEAVE ALL AREAS WHERE THE DENTURE IS TOUCHING THE CROWN UNTOUCHED. WHEN YOU GET CROWN BACK, YOU SHOULD BE ABLE TO FIT THE DENTURE EXACTLY TO THE NEW CROWN WITHOUT ANY ADJUSTMENTS!