1. The source arrangement of the tandem and ring applicator currently in common use cervical cancer brachytherapy most closely resembles that of which early intracavitary system?

   (a) The Stockholm system  
   (b) The Paris system  
   (c) The Manchester system  
   (d) The Fletcher/MD Anderson system  
   (e) The Henschke applicator system

Answer - (a) The Stockholm system


2. Which feature was not an element of the MD Anderson-Fletcher method of cervical cancer treatment developed in the mid 1950s?

   (a) Standard loadings that controlled the linear intensity of activity in the uterine tandem  
   (b) Vaginal colpostats with standard loadings meant to control the dose to the vaginal surface  
   (c) Megavoltage (25 MV) pelvic external beam irradiation  
   (d) Reporting of the dose delivered to the Manchester reference Point A  
   (e) Limits on the total mg-hrs of radium exposure

Answer – (d) Reporting of the dose delivered to the Manchester reference Point A


3. A women has a foley catheter placed before having an intrauterine tandem and vaginal applicator placed. The Foley catheter is filled with 7 cc of contrast and pulled downwards against the urethra. According to the recommendations of ICRU 38, the bladder dose should be calculated

   (a) In the center of a Foley catheter bulb  
   (b) On the posterior surface of the Foley bulb on a line perpendicular to the table, passing through the center of the bulb.  
   (c) On the posterior surface of the bulb on a line between the center of the bulb and the external os of the cervix.  
   (d) On the posterior surface of the bulb on a line between the center of the bulb and closest source in the intracavitary applicator.  
   (e) At the point of maximum dose on the posterior bladder wall.

Answer – (b) On the posterior surface of the Foley bulb on a line perpendicular to the table, passing through the center of the bulb.


4. A women with stage IIIIB cervical cancer presents with a 6 cm endocervical lesion that infiltrates the right parametrium and extends to the right pelvic sidewall. There is no involvement of the vagina or of the left parametrium. She received 45 Gy of pelvic radiation with concurrent chemotherapy and has an excellent response. MRI shows a 2 cm region of residual enhancement within the cervix. The parametrial extension that was appreciated on her initial MRI has now resolved completely. Her first intracavitary applicator placement is performed and is imaged in situ with an MRI. According to GEC-ESTRO guidelines, the HR-CTV for treatment planning would
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include:

(a) Only the 2 cm gross residual tumor seen on MRI at the time of brachytherapy.
(b) The entire cervix including the 2 cm of gross residual disease
(c) The entire cervix plus a 1 cm “safety” margin
(d) The entire cervix and the region of parametrium that was initially seen at the time of diagnosis
(e) The entire cervix and initially involved parametrium plus a 1 cm “safety” margin

(f) Answer – (b) The entire cervix including the 2 cm of gross residual disease