

INSTRUCTION MANUAL

S 230.11 ZACK™

MULTIPURPOSE MALE CARE SIMULATOR

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INTRODUCTION

The ZACK™ is a full-sized, adult male lower torso (abdomen and pelvis). It is a versatile training tool developed to assist health professionals to teach the processes and skills required to perform certain care procedures. The simulator is useful for demonstrating and practicing the following:

- Catheterization exercises
- Prostate examination
- Testicular examination
- No Scalpel Vasectomy
- Rectal/colon examinations

CONTENTS

- Simulator as shown below
- Internal bladder for catheterization
- Four interchangeable prostates
 - moderately enlarged benign prostate
 - prostate with two discreet nodules
 - prostate with easily palpable large mass
 - prostate with malignant invasive cancer
- No Scalpel Vasectomy kit with
 - Two removable scrotal skins
 - Two testicles and two long vas assemblies that can be advanced as needed
- Rectum and colon containing benign and malignant masses
- Talcum powder
- Instruction manual
- Soft carrying bag



Lower torso with soft removable skin supported by a foam insert and metal base. The squeeze bulb lifts the bladder anteriorly as the Instructor may require. The ZACK is shipped with the normal prostate and testicles in place.

CATHETERIZATION EXERCISES

Bladder catheterization is the removal of urine from the bladder by introduction of a catheter. This procedure must be conducted under strict aseptic conditions to prevent subsequent infection or inflammation of the urinary tract.

Catheterization may be practiced in the seated or recumbent position. A suprapubic cystostomy opening is also present for the practice of stoma management and maintenance. The soft vinyl male organ contains the urethra which is connected to an internal urinary bladder through a one-way valve.

Setup for catheterization

- Place ZACK on a level table and position a “catch basin” below the penis
- Fill the bladder tank with water and position it on the stand next to ZACK.
- Insert the tube from the tank into the suprapubic stoma
- To fill the internal bladder tank, raise the water supply above the stoma, open the valve
- When ZACK’s bladder is full, close the valve.



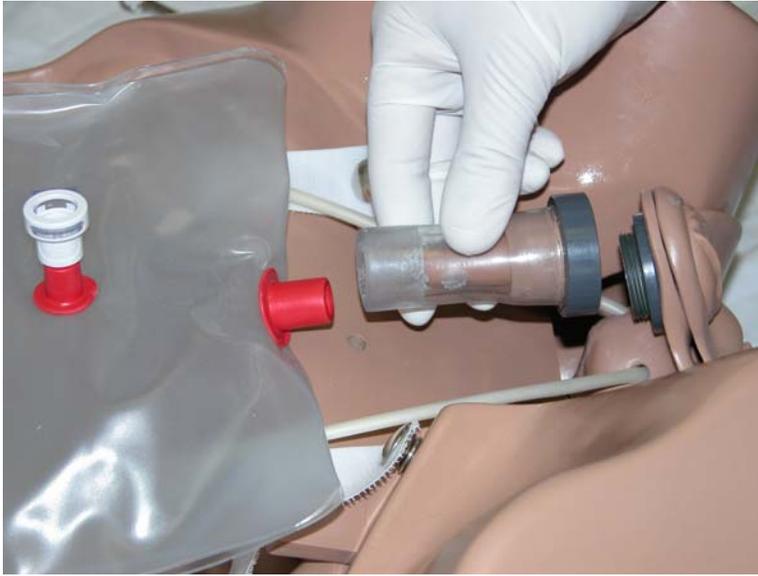
Thoroughly lubricate the distal end of the catheter using water based silicone or equivalent before introducing the catheter. Failure to do so will damage the ZACK and would cause pain in a real patient. Also note that repeated sterilization of older catheters can cause the diameter to vary leading to an imprecise fit and leakage.

When practicing catheterization the penis may be manipulated or not depending upon local practice. A “one-eye” Fr 18 catheter is recommended. Once the catheter is placed fluid from the bladder should drain readily. If not, use the blue squeeze bulb to inflate a device beneath the bladder that raises it anteriorly. This increases pressure in the bladder and increases the flow of water from the bladder.

CATHETERIZATION TROUBLE SHOOTING



Carefully remove penis and skin, the bladder is the large tank on top.



Water should easily flow from the bladder at the left, through the interchangeable valve at the center, and through the urethral opening at the right. Check for blockage. Bladder pressure can be increased using the inflatable cushion activated by a squeeze bulb.

PROSTATE EXAMINATION

Palpation of the prostate gland is an important part of health care training. It is important for the student to learn the basics of the rectal examination as well as the ability to distinguish between the “feel” of the normal prostate, i.e benign, enlarged, as well as various grades of prostatic malignancies. Four interchangeable prostates are provided:

- Moderately enlarged benign prostate (originally installed)
- Prostate with two discreet nodules
- Prostate with an easily palpable large mass
- Malignant cancer-riddled prostate



Three of the four interchangeable prostates are shown at the right.

To make the prostate examination as realistic as possible, insert a well lubricated gloved index finger into the rectum and:

- push the index finger in as far as possible
- make slow, firm, circular movements, clockwise and counterclockwise
- determine the border of the gland and its consistency
- determine whether the gland is smooth or if a nodule or mass is palpated

Interchanging Prostates

There are two ways to interchange prostates. Initially you will want to proceed as follows:



Carefully remove the penis and skin revealing the bladder.



Lift the bladder, shown at the right, up and out of the way. Remove the foam insert (not shown). Now remove the locking pin as shown and slide the prostate out.



Remove one prostate and insert the next. They are held together using Velcro® fasteners. Replace the foam insert, fold the bladder back over the top of the foam insert and put the skin back on being careful not to tear the skin.



An alternative method to interchange prostates is to temporarily remove the foam insert that is used during catheterization exercises and put it aside. Now one may go through the port at the back of the ZACK, remove the locking pin, and slide the card containing the prostate out. Change prostates and reinsert the card as well as the locking pin.

TESTICULAR EXAMINATION



To perform the testicular exam, remove the scrotum and detach the male organ.



Place these testicles under the male organ.



Insert the testicles used for palpation.



Perform palpation exercises. Both testicles have significant tumors.

NO SCALPEL VASECTOMY (NSV)

This module was developed to assist in learning a minimally invasive method of vas occlusion. It should be used only as part of an approved instructional program conducted by a certified professional.

The module consists of the following: a section of the male lower abdomen; two removable scrotal skins; two testicles; two tubal assemblies; one rubber band.



One scrotum is removed the other is a spare. The spare set of testicles and simulated vas tubing is shown at the right. The student should be supplied with at least the following: (1) ringed forceps; (2) dissecting forceps; (3) straight scissors.

Brief Description of the NSV procedure



- Remove the scrotal sack and note how the vas assemblies attach to the testicle.
- Simulate a sterile technique.
- Locate the right vas (tube) beneath the scrotal skin using the three finger technique.
- Manipulate the tube centrally beneath the scrotal sack.
- Use the ringed forceps to clamp the tube medially.
- Lower the handles of the ringed forceps to elevate one of the tubes.
- Use dissecting forceps to pierce the scrotal skin above the clamped tube.
- Stretch open the pierced skin just above the clamped tube.



- With the vas exposed, pierce the sheath covering the vas.
- Relax the clamp, but leave the ringed forceps in place around the tube.
- Elevate the tube through the opening in the scrotum, and clamp the vas outside the skin.
- Puncture the vas sheath with the forceps and strip the sheath of the vas
- Pull the vas from the sheath, ligate and tie, and replace in the sheath.
- Replace the vas beneath the scrotal skin.
- Repeat for second tube.
- Dress the wound; sutures are not needed.
- Discard removed vas segments; the remaining lengths of vas can be reattached to the testicles and the procedure repeated many times.

RECTUM AND COLON EXAMINATION

ZACK™ contains a full size rectum and colon for use with a standard endoscope. The colon contain nine (9) lesions that are noted below. They are located at various distances from the anus. The student should be able to visually identify each lesion endoscopically.



Lubricate the insertion tube of the endoscope with silicone spray. Take care not to exert excessive force on the flexible endoscope on insertion or withdrawal. Both insertion and withdrawal should be done slowly will maintaining a view through the endoscope.



Simulated lesions viewed within ZACK's colon.



From left to right, these are samples of lesions #1-9 described below that are permanently affixed to the colon.

Lesion	Description	Distance from anus (cm)
1	Melanoma	6
2	Ulcerative adenocarcinoma of upper rectum	9
3	Adenomatous polyp	15
4	Sessile adenocarcinoma	17
5	Advanced polypoid adenoma	21
6	Pedunculated adenomatous polyp	28
7	Sessile adenocarcinoma	35
8	Ulcerative adenocarcinoma	59
9	Pedunculated polyp	63

CARE AND MAINTENANCE

The ZACK™ is constructed of material that approximates skin texture. When handling the simulator, use the same gentle techniques that you would use when working with a patient.

Always use lubricant such as water-based silicone or K-Y® jelly when using instruments and gloved fingers in the pelvic examination.

After use, clean the simulator, removing all traces of any lubricant. The simulator may be cleaned with a mild detergent or with soap and water. Do not clean with harsh abrasives. Dry thoroughly and apply talcum. This will aid in the future use of your simulator.

Store the simulator in the carrying bag provided.

Indelible marks made with ballpoint pens, ink, or markers will remain.

Do not wrap the simulator in newsprint.

Do not use povidone iodine on the simulator.

SPARE PARTS	Part Number	Cost USD
Outer skin	230.11.001	75.00
Torso only	230.11.002	75.00
Foam insert	230.11.003	60.00
Rigid base assembly	230.11.004	95.00
Penis with scrotal sack	230.11.005	65.00
Introitus with locking screw	230.11.006	55.00
Bladder tank	230.11.007	10.00
Enlarged benign prostate	230.11.008	10.00
Prostate with two nodules	230.11.009	10.00
Prostate with large mass	230.11.010	10.00
Prostate with invasive cancer	230.11.011	10.00
NSV 2@ (scrotum, testicles, vas)	230.11.012	60.00
TSE assembly	230.11.013	60.00
Metal frame assembly	230.11.014	15.00
Urethral valve assembly	230.11.015	25.00
Talcum powder	230.11.016	2.00
Squeeze bulb and tubing	230.11.017	10.00
“Air bag” with tubing	230.11.018	10.00
Carrying bag	230.11.019	25.00
Skin repair kit	230.11.020	15.00

