



Snowden-Pencer<sup>®</sup>  
next generation  
reusable ring-handled  
laparoscopic instruments

# Ergonomics, versatility and durability

Designed with surgeon-researched enhancements, the next generation Snowden-Pencer® ring-handle instruments bring together the ultimate in ergonomics, versatility and durability.

Your investment is protected by a limited three-year service warranty and a lifetime warranty against manufacturer defects.

## Fully insulated handle

Eliminates direct exposure of any conductive metal surfaces

## Thumb actuation ridges

Ideally located to facilitate actuation of the instrument using the thumb

## Gripping flares

Located to facilitate palm grip applications

## Cushioned insert

Reduces thumb pressure and helps accommodate both larger and smaller hands



## Ergonomic contouring

More uniformly distributes pressure on user's hands, thereby decreasing the potential for intraoperative hand fatigue



## 360° rotation knob

Effectively sized, contoured and located to enable easy instrument rotation

## Flush port

For easy and accessible cleaning of the internal lumen

## Integrated ratchet and ratchet defeat mechanism

Positioned to give fingertip access

## Large double front ring

Improves handle stability

## Stylized form

Added surface area more uniformly distributes actuating force



Handle is also available in a non-ratcheted configuration

## Ergonomics

The Snowden-Pencer® ring-handle design more evenly distributes pressure, which helps reduce the potential for intraoperative hand fatigue and temporary digital nerve compression.

### Snowden-Pencer® ring handle study summary (n=2)

- 27% average reduction in peak pressure
- 11% average increase in hand-surface contact area
- May reduce the potential for intraoperative hand fatigue
- May reduce the potential for temporary digital nerve compression
- Versatile for use in a variety of lap procedures

### Background

It is understood that peak pressure, applied to the hand, can lead to hand fatigue and other effects associated with temporary digital nerve compression brought about by pressure points found in the thenar eminence and the middle phalanx of the middle and ring fingers, as well as the proximal phalanx of the thumb.<sup>1, 2, 3, 4, 5, 6</sup>

### Study

In an empirical usage study (n=2), the Snowden-Pencer® ring-handle laparoscopic surgical instrument handle was compared to “traditional” ring-handled instruments in terms of peak contact pressure and total hand-surface area engagement.\*

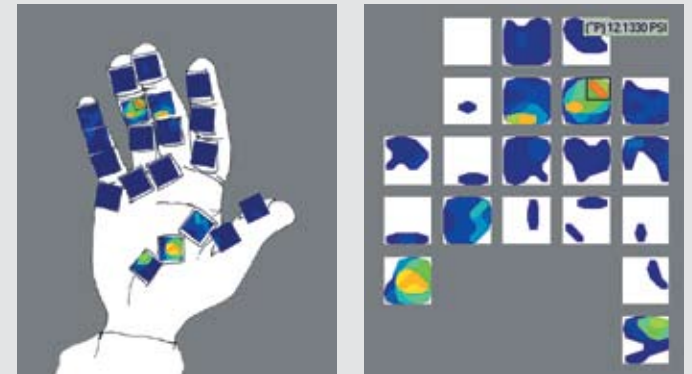
### Results and conclusions

Although not statistically significant (n=1 for both small [SM] and large [LG] hands), the study showed peak pressure reductions of 19% (SM) and 41% (LG) using a palm grip. Reductions of 26% (SM) and 23% (LG) were recorded using a precision grip. Further increases in hand-surface contact area of 10% (SM) and 5% (LG) were observed using the palm grip while increases of 16% (SM) and 15% (LG) were recorded using a precision grip. Combined, the average reduction in peak pressure was 27% with an average increase in hand-surface contact area of 11%.

The study shows that the Snowden-Pencer® ring-handle provides more surface contact than “traditional” style handles, resulting in a reduction of peak pressure in the user’s hand.

### Pressure/surface area mapping studies

Tekscan Grip™ sensing system



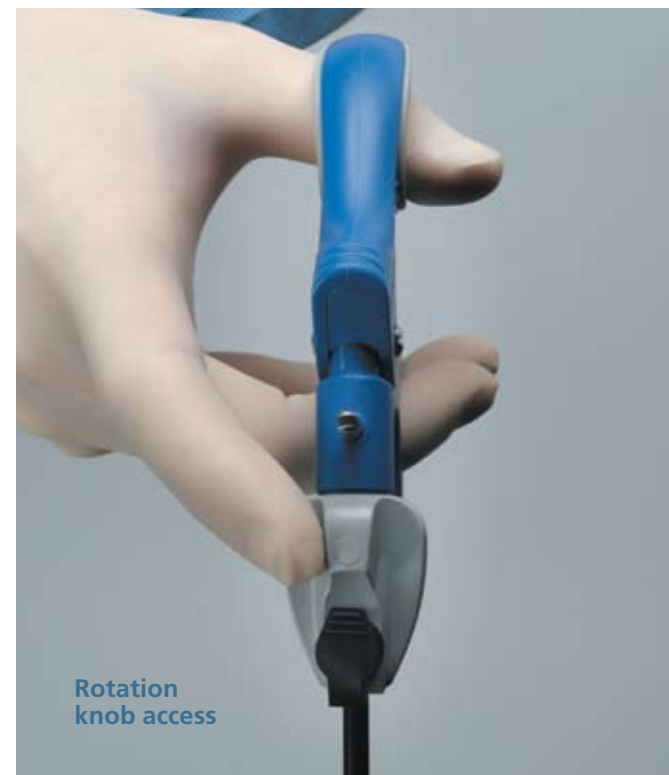
Force distribution Snowden-Pencer® ring handle (large hand)



Sensor placement (small hand)

## Versatility

The Snowden-Pencer® laparoscopic ring-handle functions in both a traditional precision-style grip or palm grip applications. The thumb actuation ridges provide increased handle efficiency and ease of use. The enlarged 360° rotation knob is easily reached with the trigger finger.



## Versatility

Integrated ratchet mechanism allows the same instrument to be used with or without the ratchet function.



# Clamps

| Description     | 36cm      | 45cm      |
|-----------------|-----------|-----------|
| Bowel, 50mm jaw | SP90-6345 | SP90-6245 |
| Bowel, 60mm jaw | SP90-6346 | SP90-6246 |



| Description              | 36cm      | 45cm      |
|--------------------------|-----------|-----------|
| CRILE, Straight jaw, 5mm | SP90-6347 | SP90-6247 |
| CRILE, Curved jaw, 5mm   | SP90-6348 | SP90-6248 |



| Description                                | 36cm      | 45cm      |
|--|-----------|-----------|
| DEBAKEY, 25mm jaw, 5mm                     | SP90-6343 | SP90-6243 |
| DEBAKEY, 25mm jaw, 5mm, non-ratched handle | SP90-6375 | SP90-6275 |
| DEBAKEY, 35mm jaw, 5mm                     | SP90-6344 | SP90-6244 |



| Description             | 36cm      | 45cm      |
|-------------------------|-----------|-----------|
| DEBAKEY, 30mm jaw, 10mm | SP90-6349 | SP90-6249 |
| DEBAKEY, 40mm jaw, 10mm | SP90-6350 | SP90-6250 |
| DEBAKEY, 50mm jaw, 10mm | SP90-6351 | SP90-6251 |
| DEBAKEY, 60mm jaw, 10mm | SP90-6352 | SP90-6252 |



| Description                     | 36cm      | 45cm      |
|---------------------------------|-----------|-----------|
| DEBAKEY, Curved, 60mm jaw, 10mm | SP90-6353 | SP90-6253 |



| Description                           | 36cm      | 45cm      |
|---------------------------------------|-----------|-----------|
| DEBAKEY, Acute Curved, 60mm jaw, 10mm | SP90-6354 | SP90-6354 |



| Description              | 36cm      | 45cm      |
|--------------------------|-----------|-----------|
| GLASSMAN, 30mm jaw, 10mm | SP90-6355 | SP90-6255 |
| GLASSMAN, 40mm jaw, 10mm | SP90-6356 | SP90-6256 |
| GLASSMAN, 50mm jaw, 10mm | SP90-6357 | SP90-6257 |
| GLASSMAN, 60mm jaw, 10mm | SP90-6358 | SP90-6258 |



| Description                      | 36cm      | 45cm      |
|----------------------------------|-----------|-----------|
| GLASSMAN, Curved, 60mm jaw, 10mm | SP90-6359 | SP90-6259 |



| Description                            | 36cm      | 45cm      |
|--|-----------|-----------|
| GLASSMAN, Acute Curved, 60mm jaw, 10mm | SP90-6360 | SP90-6260 |



# Dissectors

| Description      | 36cm      | 45cm      |
|------------------|-----------|-----------|
| 60° ANGLE™, 10mm | SP90-6338 | SP90-6238 |



| Description                                | 36cm      | 45cm      |
|--|-----------|-----------|
| Bullet Nose, Diamond-Jaw®, Atraumatic, 5mm | SP90-6319 | SP90-6219 |



| Description       | 36cm      | 45cm      |
|-------------------|-----------|-----------|
| Dolphin Nose, 5mm | SP90-6367 | SP90-6267 |



| Description   | 36cm      | 45cm      |
|---------------|-----------|-----------|
| Duckbill, 5mm | SP90-6363 | SP90-6263 |



| Description                  | 36cm      | 45cm      |
|------------------------------|-----------|-----------|
| Endo-Right Angle™ (90°), 5mm | SP90-6331 | SP90-6231 |



| Description                   | 36cm      | 45cm      |
|-------------------------------|-----------|-----------|
| Endo-Right Angle™ (90°), 10mm | SP90-6337 | SP90-6237 |



| Description                  | 36cm      | 45cm      |
|------------------------------|-----------|-----------|
| Flat Nose, Diamond-Jaw®, 5mm | SP90-6341 | SP90-6241 |



| Description   | 36cm      | 45cm      |
|---------------|-----------|-----------|
| MARYLAND, 5mm | SP90-6368 | SP90-6268 |



| Description    | 36cm      | 45cm      |
|----------------|-----------|-----------|
| MARYLAND, 10mm | SP90-6339 | SP90-6239 |



| Description  | 36cm      | 45cm      |
|--------------|-----------|-----------|
| MIXTER, 10mm | SP90-6340 | SP90-6240 |



| Description       | 36cm      | 45cm      |
|-------------------|-----------|-----------|
| Serrated Cup, 5mm | SP90-6376 | SP90-6276 |



| Description                                  | 36cm      | 45cm      |
|--|-----------|-----------|
| Tapered, Curved, Micro-Diamond-Jaw® tip, 5mm | SP90-6333 | SP90-6233 |



# Dissectors

| Description                | 36cm      | 45cm      |
|----------------------------|-----------|-----------|
| Fenestrated, 10mm Jaw, 5mm | SP90-6335 | SP90-6235 |
| Fenestrated, 16mm Jaw, 5mm | SP90-6336 | SP90-6236 |



| Description            | 36cm      | 45cm      |
|------------------------|-----------|-----------|
| Tapered, Straight, 5mm | SP90-6332 | SP90-6232 |



| Description                          | 36cm      | 45cm      |
|--------------------------------------|-----------|-----------|
| Tapered, Straight, Diamond-Jaw®, 5mm | SP90-6342 | SP90-6242 |



# Graspers

| Description                                      | 36cm      | 45cm      |
|--|-----------|-----------|
| BABCOCK, Diamond-Jaw®, 5mm                       | SP90-6318 | SP90-6218 |
| BABCOCK, Diamond-Jaw®, 5mm, non-ratcheted handle | SP90-6317 | SP90-6217 |



| Description                                 | 36cm      | 45cm      |
|---|-----------|-----------|
| Teardrop BABCOCK, 5mm                       | SP90-6373 | SP90-6273 |
| Teardrop BABCOCK, 5mm, non-ratcheted handle | SP90-6374 | SP90-6274 |



| Description                          | 36cm      | 45cm      |
|--------------------------------------|-----------|-----------|
| Standard BABCOCK, Diamond-Jaw®, 10mm | SP90-6321 | SP90-6221 |
| Fine BABCOCK, Diamond-Jaw®, 10mm     | SP90-6322 | SP90-6222 |



| Description                        | 36cm      | 45cm      |
|------------------------------------|-----------|-----------|
| Paddle BABCOCK, Diamond-Jaw®, 10mm | SP90-6361 | SP90-6261 |



| Description                   | 36cm      | 45cm      |
|-------------------------------|-----------|-----------|
| Crocodile, Single-action, 5mm | SP90-6364 | SP90-6264 |



| Description                   | 36cm      | 45cm      |
|-------------------------------|-----------|-----------|
| Crocodile, Double-action, 5mm | SP90-6366 | SP90-6266 |



# Graspers

| Description         | 36cm      | 45cm      |
|---------------------|-----------|-----------|
| DEBAKEY-ALLIS, 10mm | SP90-6328 | SP90-6228 |



| Description       | 36cm      | 45cm      |
|-------------------|-----------|-----------|
| Dolphin Nose, 5mm | SP90-6377 | SP90-6277 |



| Description  | 36cm      | 45cm      |
|--|-----------|-----------|
| DORSEY Fenestrated Single-action, monopolar, 25mm jaw, 5mm | SP90-6379 | SP90-6279 |



| Description  | 36cm      | 45cm      |
|--|-----------|-----------|
| DORSEY Fenestrated Double-action, monopolar, 25mm jaw, 5mm | SP90-6378 | SP90-6278 |



| Description               | 36cm      | 45cm      |
|---------------------------|-----------|-----------|
| DUVAL, Diamond-Jaw®, 10mm | SP90-6323 | SP90-6223 |



| Description       | 36cm      | 45cm      |
|-------------------|-----------|-----------|
| Fenestrated, 10mm | SP90-6326 | SP90-6226 |



| Description                  | 36cm      | 45cm      |
|------------------------------|-----------|-----------|
| Flat Nose, Diamond-Jaw®, 5mm | SP90-6371 | SP90-6271 |



| Description        | 36cm      | 45cm      |
|--------------------|-----------|-----------|
| Gator-Toothed, 5mm | SP90-6329 | SP90-6229 |



| Description          | 36cm      | 45cm      |
|----------------------|-----------|-----------|
| McKERNAN™ ALLIS, 5mm | SP90-6314 | SP90-6214 |



| Description                        | 36cm      | 45cm      |
|------------------------------------|-----------|-----------|
| McKERNAN™ ADSON, Diamond-Jaw®, 5mm | SP90-6362 | SP90-6262 |



| Description                                 | 36cm      | 45cm      |
|---|-----------|-----------|
| McKERNAN™ Fundus, 5mm                       | SP90-6312 | SP90-6212 |
| McKERNAN™ Fundus, 5mm, non-ratcheted handle | SP90-6311 | SP90-6211 |



| Description        | 36cm      | 45cm      |
|--------------------|-----------|-----------|
| McKERNAN™ GI, 10mm | SP90-6324 | SP90-6224 |



# Graspers

| Description      | 36cm      | 45cm      |
|------------------|-----------|-----------|
| PENNINGTON, 10mm | SP90-6325 | SP90-6225 |



| Description                                | 36cm      | 45cm      |
|--|-----------|-----------|
| Diamond-Jaw®, Bullet Nose, Atraumatic, 5mm | SP90-6320 | SP90-6220 |



| Description                             | 36cm      | 45cm      |
|---|-----------|-----------|
| Diamond-Jaw®, 5mm                       | SP90-6316 | SP90-6216 |
| Diamond-Jaw®, 5mm, non-ratcheted handle | SP90-6315 | SP90-6215 |



| Description | 36cm      | 45cm      |
|-------------|-----------|-----------|
| Raptor, 5mm | SP90-6365 | SP90-6265 |



| Description       | 36cm      | 45cm      |
|-------------------|-----------|-----------|
| Serrated Cup, 5mm | SP90-6330 | SP90-6230 |



## Needleholders

| Description               | 36cm      | 45cm      |
|---------------------------|-----------|-----------|
| Curved, Diamond-Jaw®, 5mm | SP90-6308 | SP90-6208 |



| Description                 | 36cm      | 45cm      |
|-----------------------------|-----------|-----------|
| Delicate, Diamond-Jaw®, 5mm | SP90-6306 | SP90-6206 |



| Description                                  | 36cm      | 45cm      |
|--|-----------|-----------|
| Knot Pusher/Needle Holder, Diamond-Jaw®, 5mm | SP90-6310 | SP90-6210 |



| Description                  | 36cm      | 45cm      |
|------------------------------|-----------|-----------|
| McKERNAN™, Diamond-Jaw®, 5mm | SP90-6302 | SP90-6202 |



| Description                 | 36cm      | 45cm      |
|-----------------------------|-----------|-----------|
| Long Jaw, Diamond-Jaw®, 5mm | SP90-6304 | SP90-6204 |



## Scissors

| Description                         | 36cm      | 45cm      |
|-------------------------------------|-----------|-----------|
| Switch-Blade® handle, 5mm, reusable | SP90-1053 | SP90-1253 |



## Scissor tips

| Description                        |         |
|------------------------------------|---------|
| Disposable curved METZ scissor tip | 89-5103 |



| Description                      |         |
|----------------------------------|---------|
| Disposable mini METZ scissor tip | 89-5303 |



| Description                     |         |
|---------------------------------|---------|
| Disposable straight scissor tip | 89-5115 |



## Miscellaneous

| Description     |         |
|-----------------|---------|
| Flush port plug | 88-9861 |



| Description                         |                  |
|-------------------------------------|------------------|
| Cushioned thumb insert replacements | SP90-1111 4/pack |



For additional information, please contact your V. Mueller®/Snowden-Pencer®  
MIS sales representative, call 1.800.323.9088 or visit [carefusion.com/thinkblue](http://carefusion.com/thinkblue).

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2. Nesbakken, R. (2004) *Ergonomic Guidelines in Handle Design - The Challenges of Laparoscopic Surgical Instruments*. Retrieved Nov. 2006 from <http://www.ivt.ntnu.no/ipd/forskning/artikler/2004.htm>.
3. Berguer, R. (1998) *Surgical Technology and the Ergonomics of Laparoscopic Instruments*. Surg Endosc, 12: 458-462.
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5. Berguer, R. et al. (2003) *A Comparison of the Physical Effort Required for Laparoscopic and Open Surgical Techniques*. Arch Surg, 138: 967-970.
6. Berguer, R. et al. (1996) *Ergonomics in the Operation Room*. Am J Surg, 171: 385-386.

\* Grip Ergonomics Study # DSS 122744-01 (VM-05-001)

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