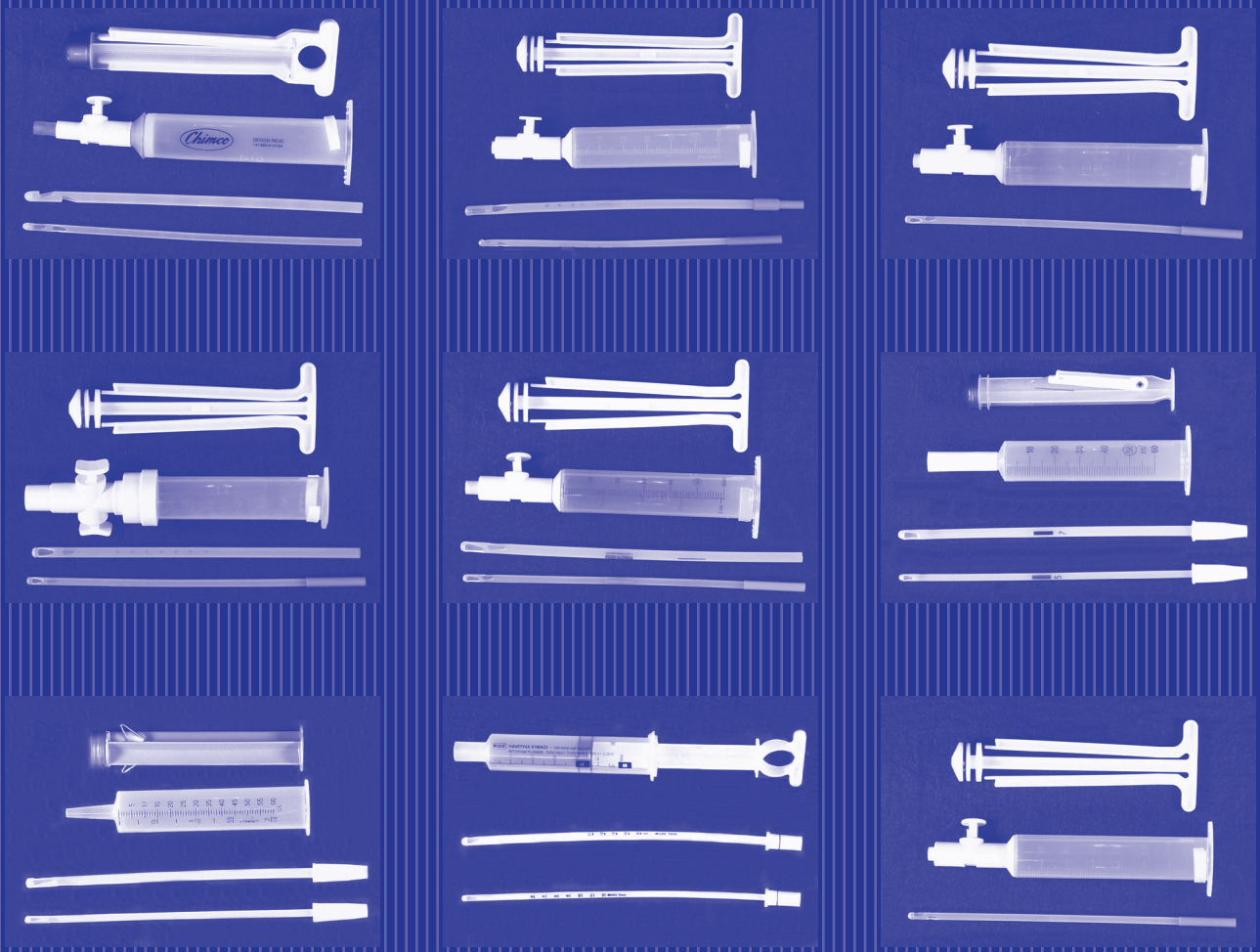
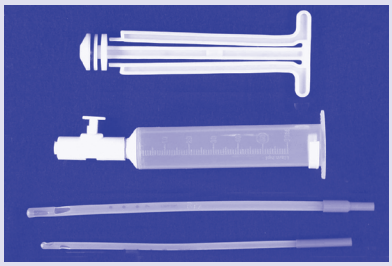
# Practical Guide for Selection of MVA Instruments



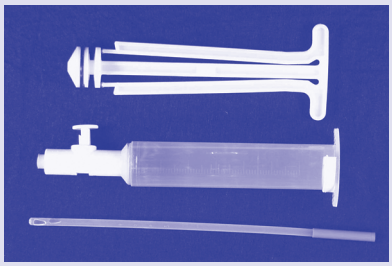

ENGENDERHEALTH
Improving Women's Health Worldwide

## MVA Instruments Evaluated

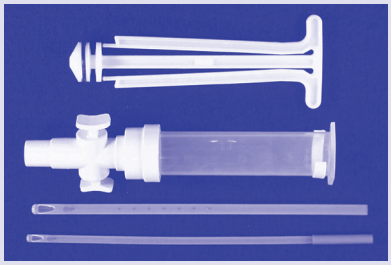

Chimco



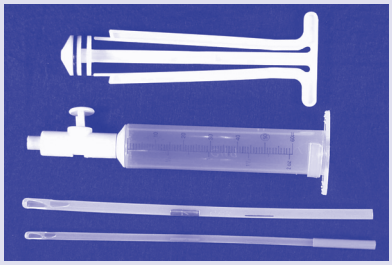
Eve



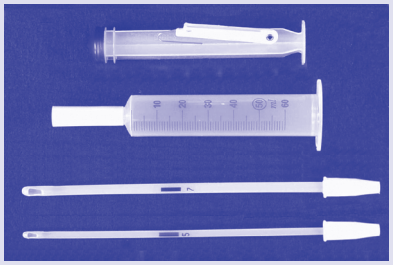
Ipas Single-Valve



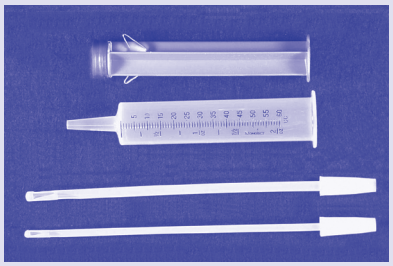
Ipas Double-Valve



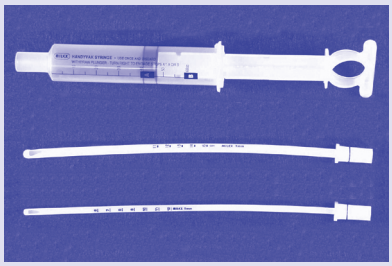
JMS



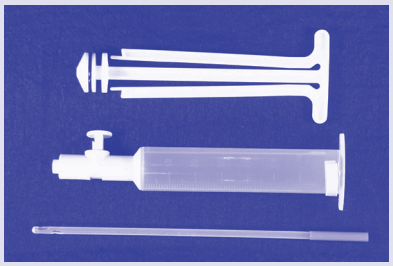
Laboratoire C.C.D.



MedGyn



Milex



Pahsco

Photos courtesy of PATH.

# Practical Guide for Selection of MVA Instruments

## Introduction

Unsafe abortion is a major public health problem worldwide. The World Health Organization estimates that each year about 70,000 women die from abortion complications—complications that could easily be treated if women had access to appropriate and timely care.

One of the most important approaches to preventing complications of unsafe abortion around the world is the introduction of manual vacuum aspiration (MVA) as a safe and effective alternative method of uterine evacuation. This technology offers many advantages to country health systems, including reduced cost of service delivery, expanded provision of postabortion care to lower-level health care facilities, and substantially reduced major medical complications. However, the instruments used for MVA vary in quality, cost, and local availability.

In an effort to help buyers assess the various MVA instruments on the market, EngenderHealth and the Program for Appropriate Technology in Health (PATH) conducted the first-ever comparative evaluation of MVA instruments in 2001, testing the durability, quality, safety, and usability of all instruments available at the time. In addition, for each product evaluated, information was compiled about the product, its distribution, and the manufacturer's contact information.

## Tests and Standards

In the field, MVA instruments (syringes and cannulae) are often used in ways that were neither intended nor tested by the manufacturer. For example, while the instruments typically are not designed for repeated use, they often are used many times before being discarded. In addition, improper cleaning or storage techniques, as well as combined use of syringes and cannulae from different manufacturers, are common, and generally are not addressed by product information or instructions tailored to ideal use.

As no widely known standards existed for evaluating MVA instruments under field conditions, innovative laboratory tests were created for this evaluation to compare and contrast all instruments (see Table 1). The tests were designed to assess the instruments after repeated use, and did not necessarily reflect manufacturers' internal quality assurance procedures or policies.

In addition to providing useful information about the ways that the instruments evaluated endure real-life conditions, the procedures and standards created for all these tests may also serve as important future guides for assessing products that were not evaluated (e.g., new products and/or those that were not available at the time of the evaluation). For this purpose, a description of test procedures and standards is provided in Table 1.

## Narrative Summary of Findings

This guide does not make recommendations for any single instrument or instruments. Rather, it outlines several findings related to instrument handling, cleaning, and processing necessary for optimal instrument functioning (see Table 2). These findings, which may provide a useful context for choosing the right instrument for a particular health care setting, indicate that:

- Both boiling and steam sterilization techniques seemed to cause moderate to significant change in quality and durability among all cannulae tested. Use of bleach and glutaraldehyde were the only methods of disinfection that did not cause significant cannula change (such as a decrease in cannula flexibility, and loss or alteration of depth or size markings) in any of the instruments tested.

**Figure and Tables**

- Soft brushes were more appropriate for use in cleaning syringes and cannulae than were metal brushes or hard substances, which caused damage to some of the instruments and/or left grooves that can invite or lodge contaminants.
- Some of the cannulae evaluated did not have uterine-depth markings (or the markings wore off easily during repeated processing), making them inappropriate for use by inexperienced providers, as working without such a guide may result in uterine perforation.
- Assembly and disassembly of all single-valve instruments was difficult for most users. This is especially significant, as instruments that cannot be fully disassembled and reassembled are difficult to clean adequately, to sterilize properly, and to use effectively.
- One single-valve and one no-valve instrument showed significant vacuum loss after 10 minutes.
- None of the no-valve instruments tested created a vacuum until they were inserted in the uterus. This is significant, because creating a vacuum while inside the uterus can increase the risk of uterine perforation.
- The no-valve instruments were incompatible for use with almost every other instrument.

## Cross-Compatibility of MVA Instruments

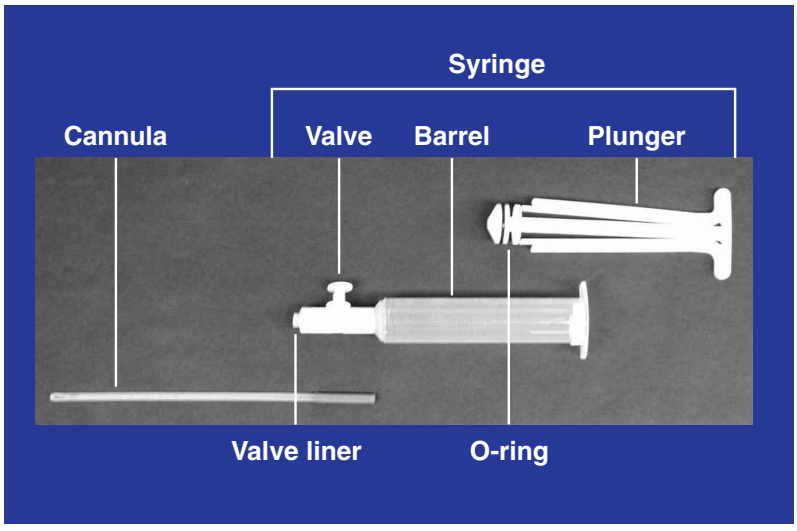
Using syringes and cannulae produced by different manufacturers is a common practice among MVA instrument users in the field. The Cross-Compatibility Test helps identify each syringe's ability to provide a proper fit when used with cannulae from each of the other manufacturers evaluated (Table 3).

## Conclusions

The study affirms that no single brand of MVA instrument is perfectly suited to every setting, and no single element of the instruments unequivocally identifies one brand as superior to another. As such, findings from the tests were not used to develop overall rankings of the instruments evaluated. However, it is evident that certain instruments do not meet minimum safety, functionality, and durability standards.

Moreover, the results suggest that while the lowest-cost MVA instruments may appear most appealing to procurers of equipment, these products may not necessarily be the safest or most cost-effective, due to their decreasing safety, functionality, or effectiveness over time. Accordingly, some products that cost more at the outset may in fact prove less expensive over the long term.

**Figure 1. Basic Components of an MVA Kit**



## Table 1. Test Procedures and Standards

| Evaluation parameter | Test name | Test procedures and standards |
|---|---|---|
| **Durability** | Disinfection/ Sterilization Test | Evaluated each instrument's ability to withstand various disinfection/sterilization methods. Following are the changes noted after each disinfection/sterilization process: |
| | ■ Bleach | ■ Each instrument was submerged in a 0.5% NaOCl (diluted bleach) solution continuously for 50 hours (rotated every 24 hours) and then was removed, rinsed, and dried. |
| | ■ Boiling | ■ Each instrument underwent five cycles of submersion in boiling water for 20 minutes, with a 20-minute cool-down period between cycles. |
| | ■ Glutaraldehyde | ■ Each instrument was submerged in a 2.4% glutaraldehyde solution continuously for 50 hours (rotated every 24 hours) and then was removed, rinsed, and dried. |
| | ■ Steam sterilization | ■ Each instrument underwent five steam sterilization cycles, at 121°C, in a conventional steam sterilizer. Each cycle lasted 20 minutes, with a 20-minute cool-down period between cycles. |
| | Cannula Tip Kink Test | Using a computer-controlled tensile test machine, evaluated the force required to kink the tip of the cannula. |
| **Quality** | Finish, Fit, and Function Test | ■ *Finish:* Visually inspected the new cannulae and syringes for irregularities.<br>■ *Fit:* Tested the force required to remove a 5-mm cannula from a syringe (with vacuum, without vacuum, when wet, and after each disinfection/sterilization test); conducted a deflection test (to evaluate whether the cannula could be inadvertently knocked out of the instrument by a back-and-forth motion applied to the cannula).<br>■ *Function:* Measured the pull force required to establish vacuum (after 25, 50, 100, and 125 vacuum cycles). |
| | Vacuum Test | Measured the ability of the new syringe, the open and closed valves (in instruments with valves), and the entire instrument (including the cannula) to retain vacuum. The instrument and gauge were left in a horizontal position; presence of retained vacuum was recorded after 10 and 60 minutes. |
| **Safety** | Cannula Cleaning Test | The cannulae were immersed for 5 minutes in a solution of simulated blood and products of conception (POCs) and then removed and dried for 4 hours. They were then immersed in a 0.5% NaOCl (diluted bleach) solution for 10 minutes and cleaned with a toothbrush and soapy water for 2 minutes. After cleaning, the cannulae were reexamined, and areas of contamination were noted. |
| | Instrument Marking Test | Compared the initial clarity of the depth and size markings (if any) on the cannulae with that after the cannulae underwent disinfection/sterilization testing. |
| **Usability** | Ease-of-Use Test | Asked experienced users to compare their experience of assembling each instrument, using it on a pelvic model, and then disassembling it. |
| | Ease-of-Learning Test | Demonstrated the assembly and use of each instrument to new users, then asked the users to compare their experience of assembling each instrument, using it on a pelvic model, and then disassembling it. |
| | Instructions and Packaging Test | Evaluated the written and graphic content of each instrument's instructions and packaging for clarity; appropriate layout, context, and perspective; and clear use of text and pictures. |
| | Cross-Compatibility Test | Measured the length of time that syringes and cannulae produced by different manufacturers maintained vacuum when used together. If vacuum was maintained for at least 30 seconds, the instruments were considered compatible. |

## Table 2. Overall Comparison of MVA Instruments
(Notes follow on page 6.)

| Brand | Kit information | Durability | Quality | Safety | Usability |
|---|---|---|---|---|---|
| **SINGLE-VALVE SYRINGES** | | | | | |
| **Chimco** | *Kit price:* No information<br>*Cannula sizes available:* 4 to 12 mm<br>*ISO or CE certified:* Unknown<br>*FDA registered:* Unknown | *Syringe:* Strongly withstands bleach, boiling, glutaraldehyde; does not withstand steam sterilization<br>*Cannulae:* Strongly withstand bleach, glutaraldehyde; moderately withstand boiling. Flexible. | *Finish:* Many irregularities<br>*Fit:* Moderate<br>*Function:* Lower pull force needed<br>*Vacuum:* No loss after 10 minutes; slight loss after 60 minutes | *Cleaning:* Tip reservoir traps contaminants; rough finish; no adapter<br>*Cannula markings:* None are provided | *Use and learning:* Difficult assembly and disassembly<br>*Instructions:* Text hard to read; adequate graphics<br>*Cross-compatibility:* Syringe compatible with 18 of 27 cannulae |
| **Eve** | *Kit price:* $30.75<br>*Cannula sizes available:* 4 to 8 mm<br>*ISO or CE certified:* Unknown<br>*FDA registered:* Unknown | *Syringe:* Strongly withstands glutaraldehyde; moderately withstands bleach, boiling, steam sterilization<br>*Cannulae:* Strongly withstand bleach, glutaraldehyde; moderately withstand boiling. Flexible. | *Finish:* Few irregularities<br>*Fit:* Less secure<br>*Function:* Lower pull force needed<br>*Vacuum:* Slight loss after 10 and 60 minutes | *Cleaning:* Smooth finish; removable adapter<br>*Cannula markings:* Are provided; spacing became altered after boiling | *Use and learning:* Difficult assembly and disassembly<br>*Instructions:* Text easiest to read; excellent graphics<br>*Cross-compatibility:* Syringe compatible with 18 of 27 cannulae |
| **Ipas Single-Valve** | *Kit price:* $20.25 to $41.50<br>*Cannula sizes available:* 4 to 7 mm<br>*ISO or CE certified:* Yes<br>*FDA registered:* Yes | *Syringe:* Strongly withstands bleach, glutaraldehyde, steam; moderately withstands boiling<br>*Cannulae:* Strongly withstand bleach, glutaraldehyde; moderately withstand boiling. Flexible. | *Finish:* Few irregularities<br>*Fit:* Moderate<br>*Function:* Lowest pull force needed<br>*Vacuum:* No loss after 10 and 60 minutes | *Cleaning:* Smooth finish; removable adapter<br>*Cannula markings:* Are provided; spacing became altered after steam sterilization | *Use and learning:* Difficult assembly and disassembly<br>*Instructions:* Comprehensive; complex detail in some sections; excellent graphics<br>*Cross-compatibility:* Syringe compatible with 14 of 27 cannulae |
| **JMS** | *Kit price:* $5.50<br>*Cannula sizes available:* 4 to 8 mm<br>*ISO or CE certified:* Unknown<br>*FDA registered:* Unknown | *Syringe:* Strongly withstands bleach, glutaraldehyde; does not withstand boiling or steam sterilization<br>*Cannulae:* Strongly withstand bleach, glutaraldehyde; moderately withstand boiling. Flexibility unknown. | *Finish:* Moderate number of irregularities<br>*Fit:* Less secure<br>*Function:* Lowest pull force needed<br>*Vacuum:* Significant loss after 10 and 60 minutes | *Cleaning:* Smooth finish; nonremovable adapter<br>*Cannula markings:* No depth markings are provided | *Use and learning:* Difficult assembly and disassembly<br>*Instructions:* Clearly laid out; small type; minimal graphics<br>*Cross-compatibility:* Syringe compatible with 18 of 27 cannulae |
| **Pahsco** | *Kit price:* $4.00 to $5.00<br>*Cannula sizes available:* Unknown<br>*ISO or CE certified:* Yes<br>*FDA registered:* Yes | *Syringe:* Strongly withstands bleach, boiling, glutaraldehyde, steam sterilization<br>*Cannulae:* Strongly withstand bleach, glutaraldehyde; moderately withstand boiling. Flexible. | *Finish:* Few irregularities<br>*Fit:* Less secure<br>*Function:* Lower pull force needed<br>*Vacuum:* Slight loss after 10 minutes; significant loss after 60 minutes | *Cleaning:* Smooth finish; no adapter<br>*Cannula markings:* Are provided; spacing became altered after boiling | *Use and learning:* Difficult assembly and disassembly<br>*Instructions:* Large format; order of information may be confusing; adequate graphics<br>*Cross-compatibility:* Syringe compatible with 19 of 28 cannulae |

| | | | | | |
|---|---|---|---|---|---|
| **DOUBLE-VALVE SYRINGES** | | | | | |
| **Ipas Double-Valve** | *Kit price:* $27.25 to $66.25<br>*Cannula sizes available:* 4 to 10 mm and 12 mm<br>*ISO or CE certified:* Yes<br>*FDA registered:* Yes | *Syringe:* Strongly withstands bleach, glutaraldehyde; does not withstand boiling or steam sterilization<br>*Cannulae:* Strongly withstand bleach, glutaraldehyde; moderately withstand boiling. Flexible. | *Finish:* Few irregularities<br>*Fit:* Very secure<br>*Function:* Greatest pull force needed<br>*Vacuum:* No loss after 10 and 60 minutes | *Cleaning:* Smooth finish; removable adapter<br>*Cannula markings:* Are provided; spacing became altered after steam sterilization | *Use and learning:* Difficult disassembly<br>*Instructions:* Comprehensive; complex detail in some sections; excellent graphics<br>*Cross-compatibility:* Syringe compatible with 14 of 27 cannulae |
| **NO-VALVE SYRINGES** | | | | | |
| **Laboratoire C.C.D.** | *Kit price:* No information<br>*Cannula sizes available:* Unknown<br>*ISO or CE certified:* Unknown<br>*FDA registered:* Unknown | *Syringe:* Strongly withstands bleach, glutaraldehyde, steam; moderately withstands boiling<br>*Cannulae:* Strongly withstand bleach; moderately withstand glutaraldehyde; do not withstand boiling. Flexibility unknown. | *Finish:* Many irregularities<br>*Fit:* Very secure<br>*Function:* Moderate pull force needed<br>*Vacuum:* Significant loss after 10 and 60 minutes | *Cleaning:* Frosted cannula and opaque, nonremovable adapter impair visualization<br>*Cannula markings:* No depth markings are provided | *Use and learning:* Difficult and incomplete disassembly. Plunger cannot be pulled back until the assembled MVA instrument is inside the uterus.<br>*Instructions:* None included<br>*Cross-compatibility:* Syringe incompatible with most cannulae |
| **MedGyn** | *Kit price:* $5.50<br>*Cannula sizes available:* 4 to 6 mm<br>*ISO or CE certified:* Yes<br>*FDA registered:* Yes | *Syringe:* Strongly withstands bleach, boiling, glutaraldehyde, steam sterilization<br>*Cannulae:* Strongly withstand bleach, glutaraldehyde; moderately withstand boiling. Flexibility varies; some are rigid. | *Finish:* Few irregularities<br>*Fit:* Not tested<br>*Function:* Moderate pull force needed<br>*Vacuum:* New equipment not tested (poor fit with some of manufacturer's own cannulae) | *Cleaning:* Smooth finish; removable adapter<br>*Cannula markings:* None are provided | *Use and learning:* Plunger cannot be pulled back until the assembled MVA instrument is inside the uterus.<br>*Instructions:* Basic text; minimal graphics<br>*Cross-compatibility:* Syringe incompatible with most cannulae (sometimes even with manufacturer's own cannulae) |
| **Milex** | *Kit price:* $10.25 to $15.00<br>*Cannula sizes available:* 3 to 7 mm<br>*ISO or CE certified:* Yes<br>*FDA registered:* Yes | *Syringe:* Strongly withstands bleach, boiling, glutaraldehyde, steam sterilization<br>*Cannulae:* The 5-mm cannula strongly withstands bleach, glutaraldehyde, steam sterilization; moderately withstands boiling. The 8-mm cannula withstands bleach and glutaraldehyde only. Flexibility varies; some are rigid. | *Finish:* Many irregularities<br>*Fit:* Very secure<br>*Function:* Moderate pull force needed<br>*Vacuum:* Slight loss after 10 and 60 minutes | *Cleaning:* Rough finish; adapter is not detachable and has internal ridges (difficult to clean); contaminants can also get trapped in the groove under the rubber ring on the adapter if the rubber ring is not removed<br>*Cannula markings:* Are provided; became distorted after boiling | *Use and learning:* Plunger cannot be pulled back until the assembled MVA instrument is inside the uterus. Plunger arm cannot be removed from the syringe, so lubrication cannot be added.<br>*Instructions:* Basic text; excellent graphic of operation of plunger<br>*Cross-compatibility:* Syringe incompatible with most cannulae |

## Table 2. Overall Comparison of MVA Instruments *(continued)*

**Notes:**

**Kit information**

- All prices are in U.S. dollars. Prices are as of 2001; current prices may vary. Special pricing for large orders may be available from any manufacturer. Price ranges generally depend on such factors as the number of cannulae included in the kit and the extra items required for the kit (e.g., lubricant, valves, O-rings).
- Kit contents are as of 2001; current contents may vary. Kit contents vary considerably among brands. See Table 4 for detailed product and distribution information.
- The cannula sizes listed are those provided in the standard kit. Some of the manufacturers produce other cannulae, which can be purchased separately.
- The International Organization for Standardization (ISO) is composed of representatives from standards organizations in each of its member countries, and establishes standards for industry, research, and government. The CE marking is a mandatory product mark for the European market, indicating that the product has been designed and manufactured in conformity with European requirements and standards.
- The U.S. Food and Drug Administration (FDA) regulates food, cosmetics, medical devices, biologics, and blood products in the United States.

**Durability**

- None of the cannulae withstood steam sterilization.

**Quality**

- Function assessments reflect the average pull force of both disinfected and new instruments. The lowest initial pull forces are approximately 6 kg and the highest are approximately 12 kg. Categories of "lower" and "higher" reflect the amount of force that was generally required.
- Vacuum assessments reflect vacuum quality of new instruments only.

**Safety**

- Cannula markings were assessed for clarity (e.g., markings for size of the cannula; markings for uterine depth on the cannula). Some of the cannulae do not have markings, or may have markings only for size and not depth, or vice versa. Those that do have markings may have them written in ink (which are easily worn off after repeated disinfection/sterilization cycles), or they may be engraved or cut into the material of the cannula.

## Table 3. Cross-Compatibility of MVA Instruments

| Cannula | | Syringe | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Brand** | **Size (mm)** | **Chimco** | **Eve** | **Ipas Single-Valve** | **Ipas Double-Valve** | **JMS** | **Laboratoire C.C.D.** | **MedGyn** | **Milex** | **Pahsco** |
| **Chimco** | 5 | | N | Y | N | N | N | N | N | N |
| | 6 | | Y | Y | Y | Y | N | N | N | Y |
| | 7 | | Y | Y | Y | Y | N | N | N | Y |
| | Largest (8) | | Y | N | Y | Y | N | Y | N | Y |
| **Eve** | 5 | Y | | Y | Y | Y | N | N | N | Y |
| | 6 | Y | | Y | Y | Y | N | N | N | Y |
| | 7 | Y | | Y | N | Y | N | N | N | Y |
| | Largest (8) | N | | N | N | N | N | N | N | N |
| **Ipas** | 5 | Y | Y | | | Y | N | N | N | Y |
| | 6 | Y | Y | | | Y | N | N | N | Y |
| | 7 | Y | Y | | | Y | N | N | N | Y |
| | Largest (8) | Y | Y | | | Y | N | N | N | Y |
| **JMS** | 5 | N | N | N | Y | | N | N | N | N |
| | 6 | Y | Y | Y | N | | N | N | N | Y |
| | 7 | Y | Y | Y | Y | | N | N | N | Y |
| | Largest (8) | Y | Y | N | Y | | N | Y | N | Y |
| **Laboratoire C.C.D.** | 5 | Y | N | N | Y | Y | | N | N | Y |
| | 6 | Y | Y | N | N | Y | | N | N | Y |
| | 7 | Y | Y | N | N | Y | | N | N | Y |
| | Largest (12) | N | N | N | N | N | | N | N | N |
| **MedGyn** | 5 | N | Y | Y | N | N | N | | N | Y |
| | 6 | Y | Y | Y | Y | Y | N | | N | Y |
| | 7 | Y | Y | Y | Y | Y | Y | | N | Y |
| | Largest (13) | N | N | N | N | N | N | | N | N |
| **Milex** | 5 | N | N | N | N | N | N | N | | N |
| | 6 | N | N | N | N | N | N | N | | N |
| | 7 | N | N | N | N | N | Y | Y | | N |
| | Largest (12) | N | N | N | N | N | N | N | | N |
| **Pahsco** | 5 | Y | Y | Y | Y | Y | N | N | N | |
| | 6 | Y | Y | Y | Y | Y | N | N | N | |
| | 7 | — | — | — | — | — | — | — | — | |
| | Largest (6) | Y | Y | Y | Y | Y | N | N | N | |

**Legend:** Y = Cannula fits N = Cannula does not fit — = Cannula does not exist or was not procured

**Notes:**

1. In the Cross-Compatibility Test, 5-, 6-, and 7-mm cannulae, as well as the largest cannula provided by each manufacturer, were tested. (The size of the largest cannula provided by each manufacturer for this test is shown in parentheses.) Note that some of the manufacturers offer larger cannulae than those provided for this test.
2. When testing cannulae with the Ipas double-valve, the following adapters were used:
   - Laboratoire C.C.D., Milex: Did not use any adapter
   - MedGyn: Removed the MedGyn adapter and used an Ipas adapter
   - All others: Used the attached adapters with Ipas adapters

## Table 4. Manufacturer and Product Information

| Brand | Contact information | Product and distribution information |
|---|---|---|
| **Chimco** | *Manufacturer:*<br>Sigma International<br>4/14A Asaf ali Road<br>New Delhi, 110 002<br>India<br>Phone: 011-91-11-3274361, -3276130, -3282284<br>Fax: 011-9111-3284391<br>e-mail: surgex@nda.vsnl.net.in | *Countries sold to:* Worldwide<br>*Distributor system:* None; contact Chimco directly<br>*Order requirements:* NA<br>*Warranty/return policy:* NA<br>*In-country product support:* In India only<br>*Training material:* Print material available<br>*Kit:* Contains one syringe, lubricant, and an instruction manual; cannulae sold separately. Piece count: 100 syringes per case.<br>*Minimum order:* NA |
| **Eve** | *Manufacturer:*<br>Liam Health Care Pvt. Ltd.<br>*Distributor:*<br>Harleys Ltd.<br>P.O. Box 42718<br>00100 GPO<br>Nairobi, Kenya<br>Phone: (254-20) 229400, -226748, -227989<br>Fax: (254-20) 337107, 219092<br>e-mail: info@harleysltd.com<br>www.harleysltd.com | *Countries sold to:* African continent only<br>*Distributor system:* Harleys Ltd.<br>*Order requirements:* Prepayment via wire<br>*Warranty/return policy:* NA<br>*In-country product support:* NA<br>*Training material:* Print material available in English. No audio/video training materials.<br>*Kit:* Contains one 60-cc syringe, a syringe valve, flexible cannulae of varying sizes with adapters, silicone oil, an extra O-ring, an extra collar stop, and a manual<br>*Minimum order:* No minimum order required |
| **Ipas** | *Manufacturer:*<br>Ipas<br>300 Market Street, Suite 200<br>Chapel Hill, NC 27516<br>U.S.A.<br>Phone: 1-800-334-8446 (toll-free in U.S.); 919-967-7052, 919-918-2085<br>Fax: 919-918-2094, 919-929-0258<br>e-mail: ipas@ipas.org<br>www.ipas.org | *Countries sold to:* Worldwide<br>*Distributor system:* 60+ worldwide; contact Ipas for nearest location<br>*Order requirements:* Payment in advance<br>*Warranty:* Syringe guaranteed for up to 50 uses<br>*Return policy:* Ipas will replace or repair any item found to be faulty. This guarantee does not cover defects arising from accident, neglect, or misuse.<br>*In-country product support:* Varies with distributor<br>*Training material:* Print material available through all distributors. Audio/video training materials available through some distributors.<br>*Kit:* Available with silicone lubricant and a variety of cannulae<br>*Minimum order:* No minimum order required |
| **JMS** | *Manufacturer:*<br>Jan Mangal Sanstha<br>Unit 111, Vasan Udyog Bhavan<br>Bombay 400013<br>India<br>Phone: (9122) 5662-3190, 5662-3191, 2498-9003, 2498-9041<br>Fax: (9122) 5662-3195<br>e-mail: Janmangal@vsnl.net | *Countries sold to:* NA<br>*Distributor system:* None; contact the manufacturer directly<br>*Order requirements:* Prepayment<br>*Warranty/return policy:* NA<br>*In-country product support:* NA<br>*Training material:* NA<br>*Kit:* Contains one single-valve syringe; one 4-, 5-, and 6-mm cannula; and one 10-cc bottle of lubricant<br>*Minimum order:* NA |

*continued*

## Table 4. Manufacturer and Product Information (*continued*)

| Brand | Contact information | Product and distribution information |
|---|---|---|
| **Laboratoire C.C.D.** | *Manufacturer:*<br>Laboratoire C.C.D.<br>60, rue Pierre Charron<br>75008 Paris<br>France<br>Phone: 33-1-4495-1495<br>Fax: 33-1-4495-1490<br>e-mail: contact@ccdlab.com<br>www.ccdlab.com | *Countries sold to:* France only<br>*Distributor system:* NA<br>*Order requirements:* NA<br>*Warranty/return policy:* NA<br>*In-country product support:* NA<br>*Training material:* NA<br>*Kit:* NA<br>*Minimum order:* NA |
| **MedGyn** | *Manufacturer:*<br>MedGyn<br>328 North Eisenhower Lane<br>Lombard, IL 60148<br>U.S.A.<br>Phone: 1-800-451-9667 (toll-free in U.S.); 630-627-4105<br>Fax: 630-627-0127<br>e-mail (international): intlsales@medgyn.com<br>e-mail (U.S.): ussales@medgyn.com<br>www.medgyn.com | *Countries sold to:* Worldwide<br>*Distributor system:* Contact MedGyn for distribution information<br>*Order requirements:* Prepayment may be required for international purchases<br>*Warranty:* 1 to 5 years (depending on item)<br>*Return policy:* Defective material may be returned for full refund or replacement<br>*In-country product support:* Only in countries with distributor<br>*Training material:* Spanish print materials are currently in production<br>*Kit:* Contains one 60-cc syringe and one 4-, 5-, or 6-mm cannula<br>*Minimum order:* $50 (U.S.) |
| **Milex** | *Manufacturer:*<br>Milex Products, Inc.<br>4311 North Normandy<br>Chicago, IL 60634<br>U.S.A.<br>Phone: 1-800-621-1278<br>Fax: 1-800-972-0696<br>www.milexproducts.com | *Countries sold to:* Worldwide<br>*Distributor system:* Contact Milex for distributor information<br>*Order requirements:* NA<br>*Warranty:* 2 years<br>*Return policy:* Material may be returned if shipment is made without customer's authorization of order, if incorrect items were shipped, if nonconforming items were shipped, or if nonconforming items are covered by the standard warranty.<br>*Shipping procedures:* Will prepare shipment, but international customs must arrange shipping logistics<br>*In-country product support:* Only in countries with distributor<br>*Training material:* Print training materials available in English only<br>*Kit:* Contains one 60-cc syringe and one cannula<br>*Minimum order:* $50 (U.S.) |
| **Pahsco** | *Manufacturer:*<br>Pahsco<br>4F, No. 160, Daye Road<br>Beitou, Taipei<br>Taiwan<br>Phone: 886-2-2895-5050<br>Fax: 886-2-2891-7873 (exports division)<br>e-mail: pahsco@pahsco.com.tw; pahsco@ms9.hinet.net | *Countries sold to:* Worldwide, except the United States<br>*Distributor system:* None; contact the manufacturer directly<br>*Order requirements:* Prepayment via wire transfer<br>*Warranty:* Syringes guaranteed for up to 50 uses<br>*Return policy:* Will replace or repair products found to be faulty by reason of poor craftsmanship or materials<br>*In-country product support:* None<br>*Training material:* Print material available<br>*Kit:* Contains one syringe; one 4-, 5-, and 6-mm cannula; and one 5-cc bottle of lubricant<br>*Minimum order:* No minimum order required |

**Note:** NA = Information was not provided by the manufacturer at the time of the evaluation.

This guide draws on the findings of an evaluation of manual vacuum aspiration (MVA) instruments conducted in 2001 by EngenderHealth and PATH. Selected findings from this evaluation were published in 2003 (Girvin, S., and Ruminjo, J. 2003. An evaluation of manual vacuum aspiration instruments. *International Journal of Gynecology and Obstetrics* 83[2]:219–232.). The evaluation was supported by the Open Society Institute. EngenderHealth staff members Lauren Pesso, Joseph Ruminjo, and Karen Landovitz developed, reviewed, and edited the guide, and Anna Kurica designed it. Preparation of this guide was supported by funding from two anonymous donors.



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