

TRADE DEVELOPMENT AUTHORITY OF PAKISTAN (ENGINEERING DIVISION)



An overview

SURGICAL & MEDICAL INSTRUMENTS INDUSTRY OF PAKISTAN















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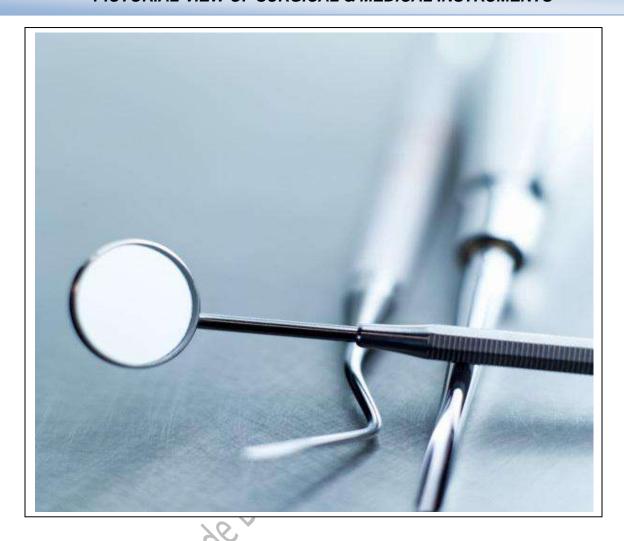
PICTORIAL VIEW OF SURGICAL & MEDICAL INSTRUMENTS







PICTORIAL VIEW OF SURGICAL & MEDICAL INSTRUMENTS





PICTORIAL VIEW OF SURGICAL & MEDICAL INSTRUMENTS



T.C. Instruments



Surgical Holloware



Tenaculum Force



Forceps

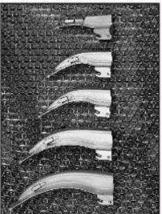


Needle Holders



Artery Forceps

Diagnostics

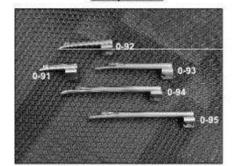


McIntosh



McIntosh Laryngoscope Set 0-90

Diagnostics





Diagnostics

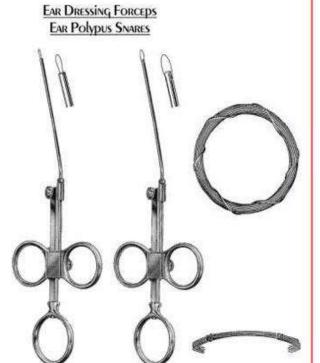


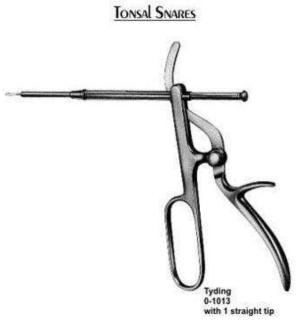
Otoscope Set 0-97 Consisting Of Battery Handle (without Battery) 3 Ear Specula, 1 Bulb

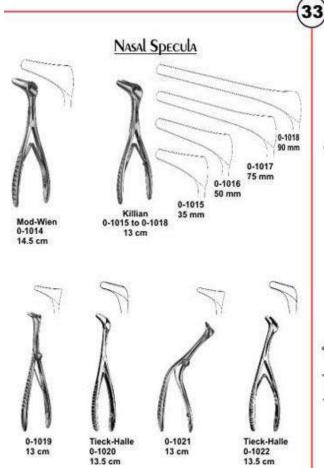
Diagnostics

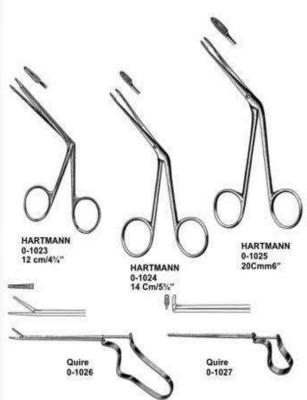


Diagnostic Set (ENT Complete) 0-98 Consisting Of Battery Handle (without Battery) 3 Ear Specula, 1 Nasel Specula, 2 Laryngeal Mirrors With Holder 1 Tongue Depressor Holder, 1 Bulb

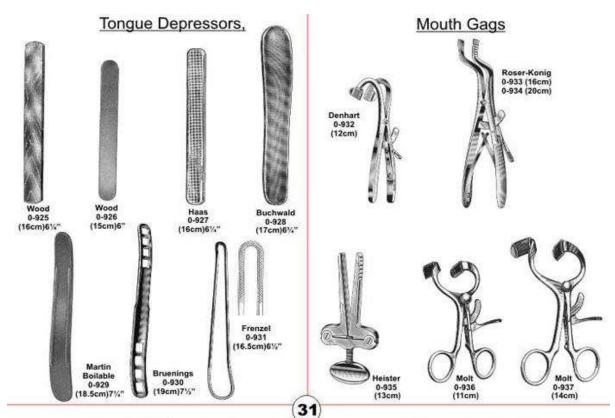


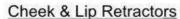






Polypus & Foreign Body Forceps





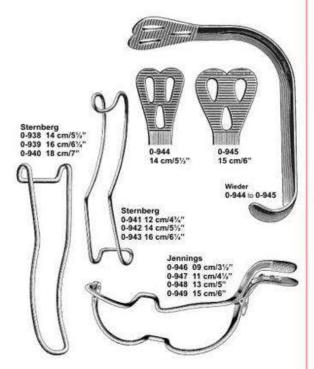
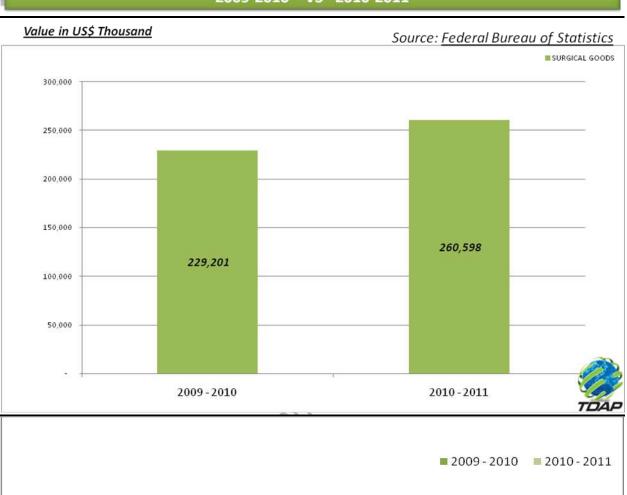
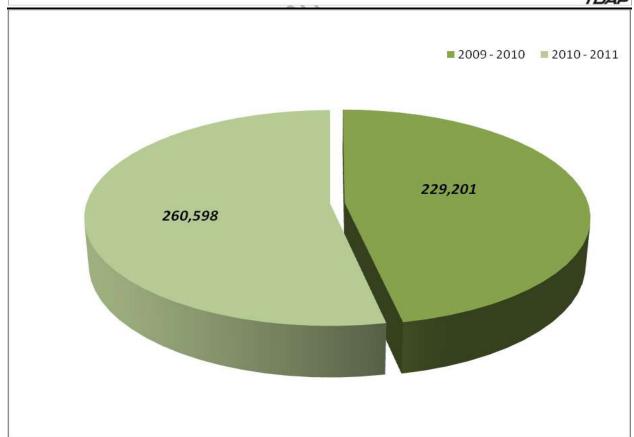




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EXPORTS OF SURGICAL SECTOR FROM PAKISTAN 2009-2010 VS 2010-2011





TOP 10 WORLD POTENTIAL MARKETS

COUNTRIES	IMPORTS FROM WORLD
United States of America	14 b
Germany	6 b
Japan	5 b
Netherlands	5 b
Belgium	4 b
France	4 b
United Kingdom	3 b
Italy	3 b
Canada	2 b
China	2 b

TOP 10 EXPORT MARKETS OF PAKISTAN

COUNTRIES	EXPORTS FROM PAKISTAN
United States of America	56 m
Germany	34 m
United Kingdom	23 m
France	11 m
Brazil	8 m
Italy	7 m
Japan	5 m
United Arab Emirates	5 m
Australia	4 m
India	4 m

SURGICAL INDUSTRY OF PAKISTAN

EXPORT UPDATE

This is a sector where Pakistan enjoys specialized skills. Products are exporting into high income markets of USA, Germany & France. Total world market is estimated at 30 billion USD. During 2010-2011 Pakistan exported Surgical & Medical instruments worth USD 260.60 million. This shows an increase of 13.7% over 2009-2010 export figures of 229.20 million.

The surgical equipment, optical and photographic equipment is described under HS Code 90.

LIST OF MAJOR PRODUCTS BEING EXPORTED BY PAKISTAN			
HS. CODE	PRODUCT LABEL		
'9018	Instruments for medical surgical and dental		
9021	Orthopedic appliances		
9022	Equipment using X-ray, Alpha, Beta, Gama rays		

The exports of Pakistan, to major extent, fall under HS code 9018

DEFINATION OF SURGICAL INSTRUMENTS

Surgical instruments are tools or devices that perform such functions as cutting, dissecting, grasping, holding, retracting, or suturing. Most surgical instruments are made from stainless steel. Other metals, such as titanium, chromium, radium, and molybdenum, are also used. Surgical instruments facilitate a variety of procedures and operations. Many surgical instruments now have electronic or computerized components.

TYPES

There are several types of surgical instruments:

- Graspers, such as forceps
- Clamps and occludes for blood vessels and other organs
- Retractors, used to spread open skin, ribs and other tissue
- > Distracters, positioners and stereotactic devices
- Mechanical cutters (scalpels, lancets, drill bits, rasps, trocars, ligature, etc)
- Dilators and specula, for access to narrow passages or incisions
- Suction tips and tubes, for removal of bodily fluids
- Sealing devices, such as surgical staplers

- Irrigation and injection needles, tips and tubs, for introducing fluid
- Tyndale's, to help "wedge" open damaged issues in the brain
- Powered devices, such as drills, dermatomes
- Scopes and probes, including fiber optic endoscopes and tactile probes
- Carriers and appliers for optical, electronic and mechanical devices
- Ultrasound tissue disruptors, cryotomes and cutting laser guides
- Measurement devices, such as rulers and clippers

INDUSTRY PROFILE

CHARACTERSTICS	VALUE
Number of units	Over 2300
Total Installed capacity	225-250 Million pieces
Current Production	150 Million pieces (60%)
Contribution to National Export	1.04 %
Contribution to GDP	0.12 %
Jobs created	100,000 to 150,000 workers
Capital Labor Ratio	10 workers/Million (Rs)
Total Estimated Investment	Rs. 12 Billion
Current Export in Pak Rupees	22.7 billion @ 87.47 as on 29 th Nov,2011

ORIGIN OF SURGICAL INDUSTRY IN PAKISTAN

Surgical industry of Pakistan dates, back to 19th century when some British doctors got their surgical instruments repaired from the skilled workers of Sialkot and thus it laid foundation to the Sialkot Surgical Industry.

SURGICAL INDUSTRY SETUP IN PAKISTAN

The world trade in medical and surgical industry is huge which goes upto 30 billion dollar. Although Pakistan fetches a very small share in the world trade, still the local industry possesses specialized skills and workers expertise which carry a century old experience in producing these sophisticated items. Pakistani products are sold in highly developed market of Germany, France, USA, Belgium etc which are also bracketed as high income markets.

The average export price of Sialkot made surgical items is between dollar 1.5 to 2.5 (for disposable products) which is higher than the Chinese export price of USD 0.35 per item. Pakistan has no competitor in Opthalmic handheld instruments.

The city of Sialkot is very well known particularly in Europe for its Surgical industry. There are around 2300 companies engaged in this industry which produce on average 150 million pieces per year with an estimated value of around Rs. 22 billion. Almost 95% production is export oriented.

Pakistan basically produces basic disposable instruments. The growth in this industry segment is low. As compared there is demand of devises and apparatus components using computer aided electronics which are fetching higher per unit prices.

Therefore the shift of emphasis in the global leading manufacturers is on high value added products. Practically Sialkot has no competitor on basic component and most of the production from Germany has shifted to Pakistan. The result is that Pakistan produces semi-finished goods which are repackaged in Germany, Europe & USA and then sold internationally at higher prices. The very low quantity is consumed locally due to low demand by public health entities and private sector hospitals. Infact, this Sialkot based industry has limited contacts with the local end users, they normally operate through bulk buyers/traders.

Out of 2300 major companies 30 units are large integrated units. These bigger companies are technically advanced with lot of mechanization in their production processes. They have also diversified products into medical mechanized devices. Second category is of medium type of firms which are around 150 in numbers and they handle exports of above 100 million. The small units are 2000 in numbers and they handle export of up to 80 million.

The details of surgical instrument which are being exported is as under

- Instruments and appliances used in medical or veterinary sciences
- ✓ Instruments and appliances, used in dental sciences
- ✓ Needles, catheters, cannulae
- ✓ Syringes, with or without needles
- ✓ Oxygen therapy, artificial respiration/ therapeutic respiration
- ✓ Dentists, barbers or similar chairs and parts thereof
- ✓ Medical, surgical, dental or veterinary furniture and parts
- ✓ Dental drill engines, whether not combi on a single base equipment
- ✓ Ophthalmic drill engines, and appliances
- ✓ Breathe appliances & gas masks, protective masks

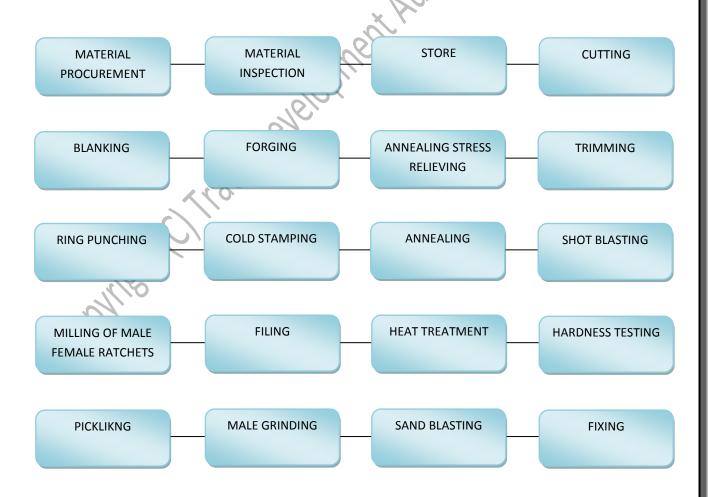
- ✓ Tubular metal needles and needles for sutures
- ✓ Mechano-therapy applicaton; massage app; psychological aptitude test apparatus

RAW MATERIAL

Stainless steel and steel forgings both imported as well as local are major industrial inputs. The other material required is processed chemicals

The manufacturers have concerns about the quality of the local steel as it reportedly doesn't conform to health grade steel. Steel is mainly imported from Japan, France, Germany & Taiwan. Due to volatile prices of imported raw material the Sialkot based firms find it difficult to do long term forecasting. There is a shortage of good quality Titanium because Titanium import is ban. Therefore the Titanium is being taken from ship breaking which caused air bubbles in the material.

PRODUCTION FLOW CHART



FORGING & SHAPING

This is a manual process by skilled workers and presses are operated by hand, the wastage at this process is 5% and the average fault rate in Pakistan is 30% as compared to Germany 4%..

MILLING & MACHINING

The technology is used to change parts & cutters

TAMPERING

95% of tampering is done through conveyer belt system; this is a critical process as inconsistent tampering results in rusting and corrosion of disposable instruments

ROUGH GRINDING

This process is also dependent on skilled workers

SUGGESTIONS TO UPGRADE PRODUCTIVITY

1. Industrial High tech coating

The European & American customers demand protective coating i.e Nitrite coating on surgical instruments and medical devices

2. Corrosion preventive facility

Corrosion is a major issue as our instruments are reported to have rust formation in joints and hinges.

3. Training of workers

Surgical Industry workers requires training in Plastic Injection Molding, Computer Aided Design, Computer Aided Manufacturing – Milling, Computer Aided Manufacturing –Turning, CNC Surface Grinding, CNC EDM, Laser Welding, Forging, Pre-cleaning/washing and disinfection, Sterilization, Packaging of Medical Devices, Medical Device Testing, Heat Treatment, Corrosion Prevention, Basic Machine Maintenance, Basic Electrical Technology, Advanced Machining Technologies, Material Testing and Evaluation.

SUPPORTING INDUSTRIES

The main supporting industries for surgical industries are

- 1. Steel manufacturers and metal importers
- 2. Chemicals
- 3. Machinery
- 4. Casting & Dye making industry
- 5. Research & Training Institute
- 6. Packaging Industry
- 7. Marketing & Branding agencies

CERTIFICATION REQUIREMENTS

Alikoiity of Pakistan CE Marking, GMP, ISO 9001, ISO 13485, NID.

VALUE CHAIN ANALYSIS

Taken the module of a standard forceps, the raw material constitutes about 35%, whereas the production process contribute 4.6% in the forging & shaping, 5.9% in the milling and machining, 1.52% on rough grinding and tampering & other costs on final grinding over and packing. The margins on ex-factory cost are normally 44%. FOB price of supposing Rs 213 per set, the importers margins are huge i.e 492 Rupees as against i.e 230%.

PAKISTAN EXPORT COMPETITIVENESS

2010-2011 exports of 240 million shows an increase of 13.7% over previous years. Pakistan is showing positive growth in this industry. The world export pattern is very diverse. Largest segment is of high value apparatus (52.6%) then basic surgical instruments (42.9%) and dental products (4.5%). Almost 96% of the Pakistan exports comprise of basic surgical instrument mostly of disposable products. Dental instrument share is 4.03% and high value apparatus 0.45%.

EXPORT DESTINATIONS

POTENTIAL MATRIX					
Existing Export Market	Potential Export Market	Comments/Barriers/Challenge s			
1. USA	1. Europe	Potential of Exponential			
2. Germany	2. North America	growth in exports			
3. UK	3. South America	Brand Development is a challenge for surgical			
4. France	4. Central America	industry			
5. Brazil	5. East Asia	3. Product Development			
6. Italy	6. South Asia	4. Standards and certification			
7. Japan	7. Central Asian Republics	5. The industry needs to			
8. UAE	8. Middle East	resolve internal conflicts 6. The industry has the			
9. Australia	9. African continent	potential of making			
10. India	10. Australia	exports over US\$ 1.25			
		billion per year.			

WORLD MARKET ANALYSIS

CATEGORY 9018

Electro Medical apparatus (Electro-cardiographs, infra-red ray

<u>Pakistan exported goods worth USD 233 million, the analysis of Pakistani top five markets is as under for this category</u>

<u>USA</u> has huge domestic market of USD 15 billion. The major exporters to USA were Mexico with 4 billion Germany with 2 billion Japan with 1.4 billion Ireland 1 billion and China 988 million. Pakistan exported worth USD 57 million and ranked 25th amongst importers, considering this huge market the industry has the potential to promote its exports.

Germany offers domestic market of 6.9 billion US remains the top exporter with 1.8 billion Japan 725 million Switzerland 701 million Netherland 375 million and UK 360 million. Pakistan exported goods worth US\$ 34 million and ranked 27th on the list of importers to Germany.

<u>**UK**</u> has the market 3.37 billion with USA the top exporter with 796 million, Netherlands 538 million Germany 536 million Belgium 343 million and France 225 million Pakistan exported worth US\$ 24 million and ranked 17th

<u>France</u> market was 3.9 billion the major supplier were USA with 921 million Germany 555 million Belgium 383 million Mexico 269 million Switzerland 226 million Pakistan ranked 32 with export of US\$ 11 million.

<u>Brazil</u> had domestic market of 1.1 billion. The top importers were USA 468 million Germany 145 million China 100 million Japan 83 million Netherland 43 million and Pakistan ranked 19th with export of 8 million.

CATEGORY 9019

Mechanotherapy Appliance (artif resp, massage app, ozon/oxygen)

In the year 2010 Pakistan exported \$ 0.122 million. Markets are as under

<u>Uzbekistan</u> Pakistan exported worth 0.11 million however Uzbek market was 3.4 million and our competitors were South Korea = 1.5 million UK = 1 million China = 0.34 and Russia = 0.11. Uzbek market due to close location with Pakistan presents much potentials for Pakistani exporters to promote the product.

CATEGORY 9020 Other breathing appliances and gas mask

In this category Switzerland is the main importer with market of 10 million Germany, UK, France and Italy are the suppliers and Pakistan has no share.

CATEGORY 9021 Orthopaedic appliance (crutche / surgical belts & trusse)

Pakistan exported US\$ 0.32 million.

USA market is quite strong with 8 billion. However there is demand in Asian countries of Russia, Lebanon and Singapore whereas 19 million markets exists in Tunisia. Pakistan can consider promoting its exports in Russia which has the market of 377 million, Lebanon = 37 million and Tunisia = 19 million.

CATEGORY 9022 Apparatus based on the use Of X-Rays/Of Alpha, BETA/GAMMA

Pakistan exported worth US\$ 1.2 million.

Its markets were USA, Germany, UK, Hungary & Singapore. Amongst this category, Pakistan can focus on Hungary in East Europe which has market of 162 million.

CATEGORY 9023

Instruments, apparatus & models, designed for demonstrational purposes

<u>Pakistan exports were very nominal of US\$ 0.05 million</u>, major portion went to Germany.

CATEGORY 9030

Oscilloscope / spectrum analyser; instr for measuring ionising rad

<u>Pakistan exported worth 1 million</u>; the major five importing countries were Germany 330 million and Poland 180 million.

CATEGORY 9032

Automatic regulating or controlling instruments and apparatus

<u>Pakistan exported worth 2 million</u> and Brazil was major recipient with 0.824 million. The other important importing countries were Iran, Italy and China.

The analysis of the eight product groups of Surgical indicates that Pakistani major markets are either USA or European countries however Asian and African countries particularly Uzbekistan, Tunisia, Lebanon, Russia, Iran and China have vast potentials further to this East European countries like Hungary and Poland are also potentials markets.

Therefore diversification of markets is advisable for surgical exporters.

TRADE PROMOTIONAL ACTIVITIES OF TDAP

Surgical instruments have always been the focus of Trade Development Authority of Pakistan as far as facilitation for exports is concerned, besides the FBR has always adjusted import tariff to facilitate surgical industry to import its inputs at zero or on a minimal rate of custom duty. There are other zero rating schemes for import of inputs by the export sectors as well which are also available to surgical industry. More recently the government of Punjab has established a center within the surgical cluster to serve as common facility center for testing outsourcing of ancillary processes and training of man power.

Details of TDAP activities to promote Surgical sector:

SURGICAL SECTOR					
<u>DETAILS</u>	<u>DATES</u>	<u>ORGANIZER</u>			
FIME Show, Florida international	August,	TDAP			
August, 2011	2011				
- 15 companies participated in 2011					
, , ,					
, , ,	Navanakan	TDAD			
медіса Dusseidorī, Germany	16 th – 19 th	TDAP			
	2011				
18 th Hospitalar, Brazil is	May,	TDAP			
_	24" to 27" 2012				
,	2008	TDAP			
Surgical Industry visited Europe	2000	75711			
TDAP is composing a delegation	March	TDAP			
for Tashkent – Uzbekistan as a follow up of Prime Minister of	2012				
Pakistan`s visit to Uzbekistan in March 2011					
	FIME Show, Florida international Medical expo USA held on 10-12 August, 2011 - 15 companies participated in 2011 - 25 companies participated in 2010 - 10 companies participated in 2009 Medica Dusseldorf, Germany 18 th Hospitalar, Brazil is scheduled to be held next year and not yet advertised Four member delegation of Surgical Industry visited Europe TDAP is composing a delegation for Tashkent – Uzbekistan as a follow up of Prime Minister of Pakistan's visit to Uzbekistan in	FIME Show, Florida international Medical expo USA held on 10-12 August, 2011 - 15 companies participated in 2011 - 25 companies participated in 2010 - 10 companies participated in 2009 Medica Dusseldorf, Germany Medica Dusseldorf, Germany November, 16 th – 19 th 2011 18 th Hospitalar, Brazil is scheduled to be held next year and not yet advertised Four member delegation of Surgical Industry visited Europe TDAP is composing a delegation for Tashkent – Uzbekistan as a follow up of Prime Minister of Pakistan's visit to Uzbekistan in			

SURGICAL SECTOR (continued from previous...) Feb 25th US Department of Commerce under SABIT program is hosting to Delegation 15 - 20 members' surgical March 10th delegation to USA. Under training 2012 program for quality improvement. Seminar / CBI in CBI Holland has selected 14 October surgical firms from Sialkot in its Workshop 2011 collaboration 3rd Expert Coaching Program and with TDAP organized workshop in Sialkot & Lahore in Oct, 2011. CBI Expert Coaching Program CBI in March, $22^{nd} - 27^{th}$ (ECP) on Medical devices and collaboration Seminar / 2010 with TDAP Laboratory Equipment in Sialkot, Workshop Pakistan Sialkot October $10^{th} - 12^{th}$ 2011 Sialkot CBI in Training for Surgical Industry for Seminar / collaboration Workshop participating in Trade Fairs with TDAP October $14^{th} - 15^{th}$ 2011 Lahore Seminar / Workshop for Surgical industry on CBI in June 2010 Workshop selection of firms for Auditing collaboration under ECP with TDAP

Representative Association of Surgical Manufactures of Pakistan

SIMAP is a representative association of Surgical manufacturers. SIMAP was founded in 1958 with an aim to protect and promote the art of surgical instruments manufacturing and to help solving the problems of surgical manufacturing community.

CONTACT DETAILS OF SIMAP			
Address	The Surgical Instrument Manufacturers Association of Pakistan Near Sublime Chowk, Marala Road, Sialkot Pakistan.		
Current President of SIMAP	Mr. Jahangir Bajwa, Tel: 0300-8610722 Fax: 052-4588777		
Current Senior Vice Chairman of SIMAP	Mr. Zafaryab Ali Shah Tel: 0301-6129118 Fax: 052-3554752, 052-3254452		
Tel	+92 52 3554890, +92 52 3563014, +92 52 3554217		
Fax	+92 52 3554217		
Email	infor@simap.org.pk, chairman@simap.org.pk		
URL	http://www.simap.org.pk		

Sialkot Material Testing Laboratory (SIMTEL)

SIMTEL was established in year 2001 under the supervision, guidance and initiative of FDA, USA,. The project is being jointly managed by Trade Development Authority of Pakistan (TDAP) & Surgical Instrument Manufacturers Association of Pakistan (SIMAP). The laboratory is equipped with modern, sophisticated and Hi-Tech testing equipments in order to conforming made in SIALKOT medical instruments to the International Standard specifications and provision of consultancy to the manufacturers and exporters to improve the manufacturing techniques and processes of medical instruments.

TOP 20 EXPORTERS OF SURGICAL & MEDICAL INSTRUMENTS

Sr #	Name Of Unit	Contact Person	Product	Contact Details
1	Hilbro (Pvt) Ltd, Daska Road Sialkot	Mr. Muhammad Ashraf	Surgical, Dental & Veterinary Inst	Ph: 052-6526276 Fax: 052-6526279 Email: <u>ashraf@hilbro.net</u>
2	Dr. Frigz International, Airport Road, Gohad Pur, Sialkot	Mian Muhammad Riaz	Surgical, Dental & Veterinary Inst	Ph: 052-4262701- 03 Fax: 052-4262704
3	Elmed Instruments, Roras Road, Sialkot	Mr. Baber Iqbal	Surgical, Dental & Veterinary Inst	Ph: 052-3557728 Fax: 052-3557730 Email: elmed @brain.net/pk
4	Towne Brothers (Pvt) Ltd., 52-56-B S.I.E. Sialkot.	Mr. Abdul Ghafoor Bhatti	Surgical, Dental & Veterinary Inst	Ph: 052-555334-6 Fax: 052-551486 052-553717 Email: sales@towne.pk.com
5	Tino Pal Surgical Corp., S.I.E, Sialkot.	Mr. Najeeb Mirza	Surgical, Dental & Veterinary Inst	Ph: 052-3255354 052-3552298 Fax: 052-3553354 Email: <u>tenopal@brain.net.pk</u>
6	Technimen Agha (Pvt) Ltd., Wazirabad Road, Sialkot	Agha Bilal Haider	Surgical, Dental & Veterinary Inst	Ph: 05-2-4263834 Fax: 052-4263254 Email: technimen@gjr.paknet.com.pk
7	QSA Surgical Corp, (Pvt) Ltd., Daska Road, Sialkot.	Qaiser Shabbir	Surgical, Dental & Veterinary Inst	Ph: 052-6526387 Fax: 052-6526386 Email: info@qsasurgical.com
8	Medical Devices (Pvt) Ltd., Wazirabad Road, Sialkot.	Mr. Tausef Ajmal	Surgical, Dental & Veterinary Inst	Ph: 052-3571214-15 Fax: 052-3571210-11 Email: info@mdevices.com
9	Buraq Surgical Corporation, S.I.E, Sialkot.	Syed Mukhtar Bukhari	Surgical, Dental & Veterinary Inst	Ph: 052-3555151-3 Fax: 052-3554152 Email: bcs@brain.net.pk
10	Medisporex (Pvt) Ltd Khadim Ali Road Sialkot	Ch Muhammad Akram		Ph: 052-3554148 Fax: 052-3255718 Email: medis @brain.net.pk

Sr #	Name Of Unit	Contact Person	Product	Contact Details
11	M.A. Arain Wazirabad Road Sialkot	Mr. Tariq Mahmood	Surgical, Dental & Veterinary Inst	Ph: 052-4264926 Fax: 052-4264571 Email: maarain@brain.net.pk
12	Qayum & Elahi Sons (Pvt) Ltd., Wazirabad Road, Sialkot.	Mr. Imtiaz Mahmood	Surgical, Dental & Veterinary Inst	Ph: 052-426622, 052-4263321 Fax: 052-4263322-23 Email: <u>info@gel.com.pk</u>
13	Solatch Sons, Christian Town Sialkot.	Mr. Adnan A. Solatch	Surgical, Dental & Veterinary Inst	Ph: 052-4264859 Fax: 052-4264785 Email: soltach@brain.net.pk
14	Surgicare, Daska Road, Sialkot.	Mr. Khalid Pervez Mughal	Surgical, Dental & Veterinary Inst	Ph: 052-3552711, 052-3556387 Fax: 052-355128 Email: <u>surgicar@brain.net.pk</u>
15	Tecno Instruments (Pvt) Ltd, 316-/C, S.I.E, Sialkot.	Mr. Shuiab Bhatti,	Surgical, Dental & Veterinary Inst	Ph: 052-3552681, 052-3555272 Fax: 052-4588135 Email: <u>info @tecno.com.pk</u>
16	Surgicon (Pvt) Ltd, Khadim Ali Road, Sialkot	Mr. Fazal Jalani	Surgical, Dental & Veterinary Inst	Ph: 052-351501-3 Fax: 052-3510022 Email: surgicon@brain.net.pk
17	Euromed Industries (Pvt) Ltd, S.I.E, Sialkot.	Mr. Muhammad Yaqoob	Surgical, Dental & Veterinary Inst	Ph: 052-355107 Fax: 052-3554428 Email: <u>euromed @skt.comsatas.pk</u>
18	Hico Surgical, Wazirabad Road, Sialkot.	Mr. Nasir Iqbal	Surgical, Dental & Veterinary Inst	Ph: 052-3562222 Fax: 052-3553661 Email: <u>info @hico.biz</u>
19	Durrani & Co Naul Wazirabad Road Sialkot	Mr. Irshad Durrani	Surgical, Dental & Veterinary Inst	Ph: 052-3553612 Fax: 052-3553418 Email: durrani@sktcomsats.net.pk
20	Allen Surgical Co 18-A S.I.E. Sialkot	Muhammad Maqsood	Surgical, Dental & Veterinary Inst	Ph: 052-3555456 Fax: 052-3559337 Email: info @allensfuture.com

REFERENCES

- I) UNIDO Report
- II) EDB Report
- Convielt C. Trade Development Authority of Pakistan

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