

A New Light in the Breast Cancer World

# DOBI Dynamic Optical Breast Imaging

**G. John Zhang, Ph.D.** President & CEO DOBI Global

DOBI Medical

## DOBI ComfortScan<sup>®</sup> System





## Present and Future Uses of DOBI Technology



Diagnostic Adjunct to Mammography





Noninvasive Therapy Monitoring



### **DOBI Project Contents**

- Background of DOBI Project
- <u>Clinical Fundamental of DOBI Technology</u>
- Imaging Principle of DOBI Technology
- <u>Comparisons of Breast Imaging Modalities</u>
- DOBI ComfortScan Marketing Development
- DOBI Screening Device ComfortScreen
- DOBI Global Fundraising





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# Background of DOBI Project



#### Five Stages of DOBI Project

#### DOBI Principle Study

- DOBI Technique was researched
- In 1985 at Moscow University

#### DOBI Product Development

- DOBI Product, ComfortScan, was developed
- From 1990 to 2000 by DOBI Medical Systems

#### ComfortScan Marketing Developing

- Worldwide Marketing Approvals of ComfortScan were performed
- From 2001 to 2007 by DOBI Medical International

#### ComfortScan Initial Sales

- Over Fifty ComfortScans were sold mostly at Italy and Beijing
- From 2008 to 2010 by XinAoMDT

#### DOBI Project Reorganization

- DOBI ComfortScan is remanufactured
- Since 2011 by DOBI Global

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# DOBI Clinical Fundamental

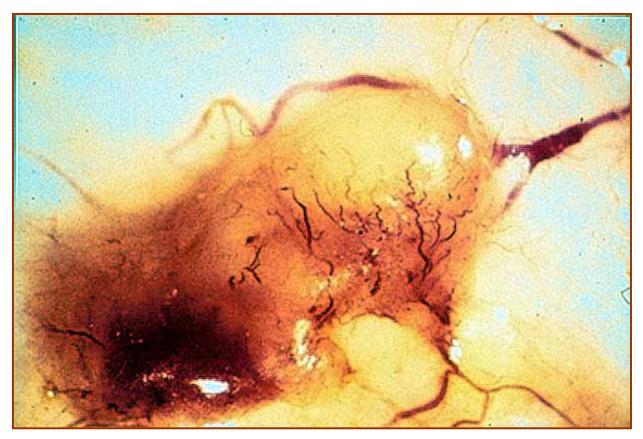
## Tumor Angiogenesis

A Natural Biomarker For The Presence Of Breast Cancer



#### Angiogenesis in the Breast

ComfortScan provides physicians with new, functional physiological information useful for improved clinical decision-making

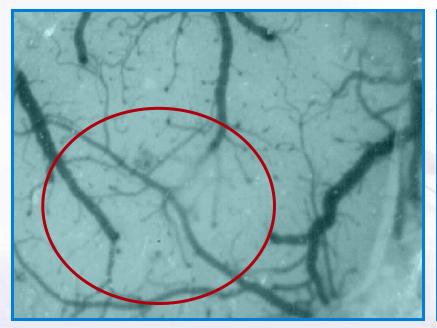


Close-up of a network of angiogenic vessels around a breast cancer lesion



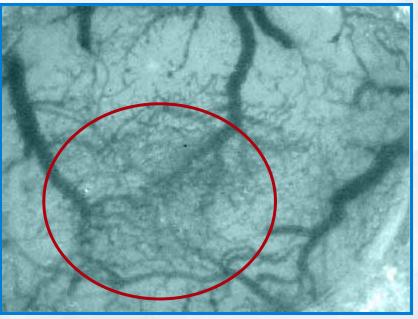
Photo courtesy of Dr. David Cheresh and the Scripps Research Institute

### Blood Vessel Growth Surrounding a Tumor



1 day after tumor implantation

- Uniform A-V flow
- Normal permeability
- Vascular hierarchy maintained



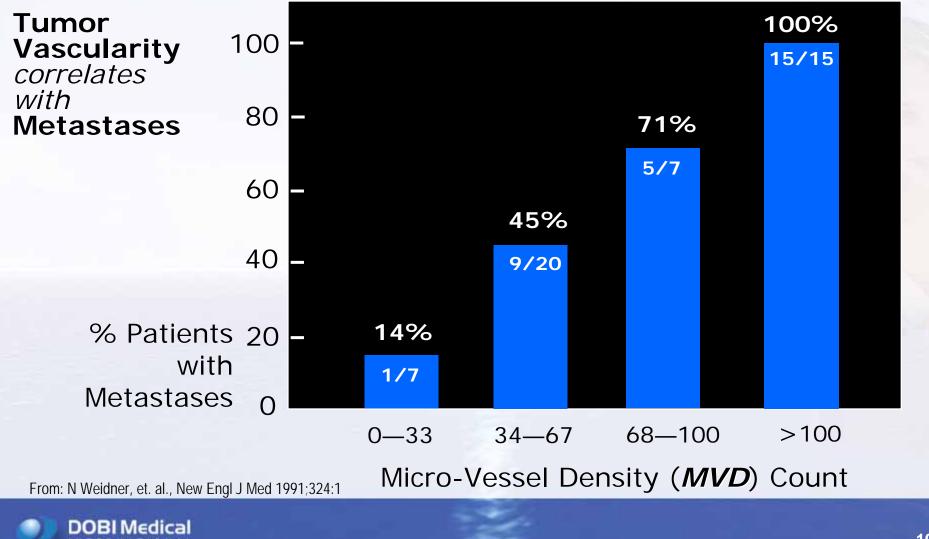
7 days after tumor implantation

- · Chaotic to poor flow or regional stasis
- Hyper-permeable and leaky
- Disorganized architecture

Photos courtesy of Dr. David Cheresh, Scripps Research Institute



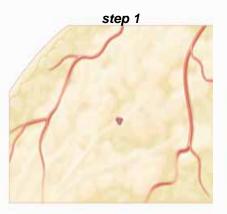
#### Angiogenesis in the Breast



#### Tumor Angiogenesis in the Breast

When a malignant tumor starts to grows in the breast (step 1), It usually becomes supported by a complex network of blood microvessels (step 2) That feed it and assist in its local growth and development (steps 3 and 4). This vascularization process is called tumor angiogenesis.

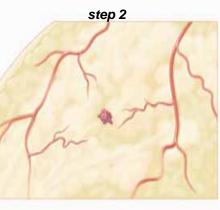
The ComfortScan system has been designed to be able to detect this abnormal network of blood vessels, thereby providing a useful complement to common mammographic images. Tumor in Breast

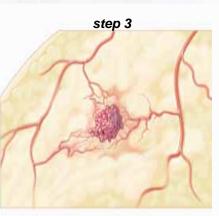


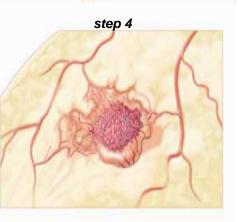
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Area of

Close-up

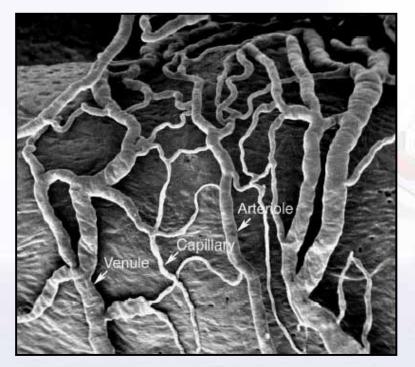






#### Angiogenesis in the Breast

#### Normal

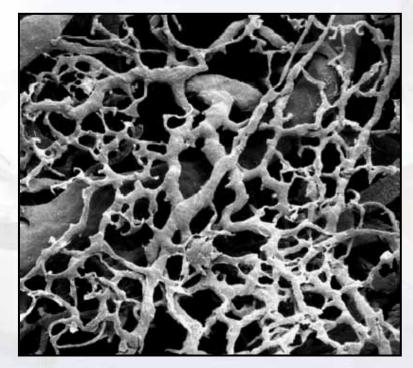


Uniform A-V flow

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- Normal permeability
- Vascular hierarchy maintained

#### Tumor



- Chaotic to poor flow or regional stasis
- Hyper-permeable and leaky
- Disorganized architecture

Source: M Konerding (From: DM McDonald and PL Choyke. Nat Med 2003; 9:7)





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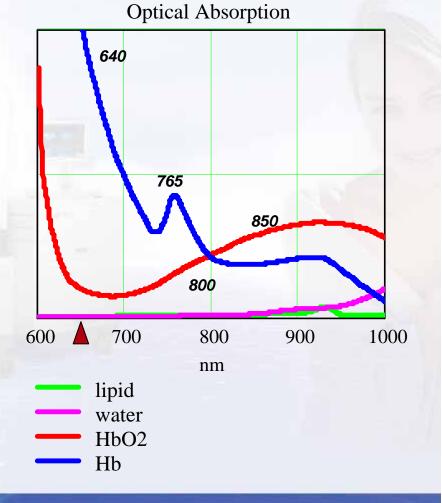
# DOBI Imaging Principle

**DOBI ComfortScan** Overview & Operation

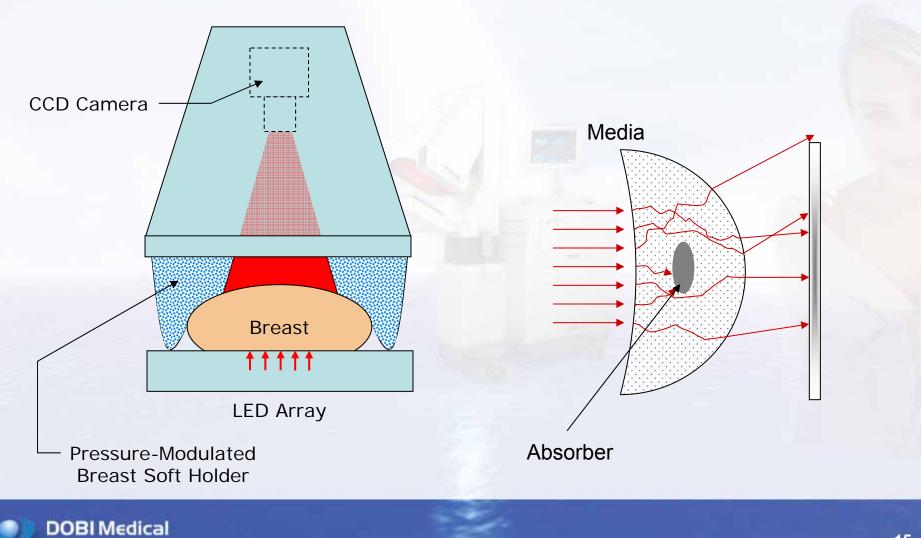


### **Optical Properties of Tissue**

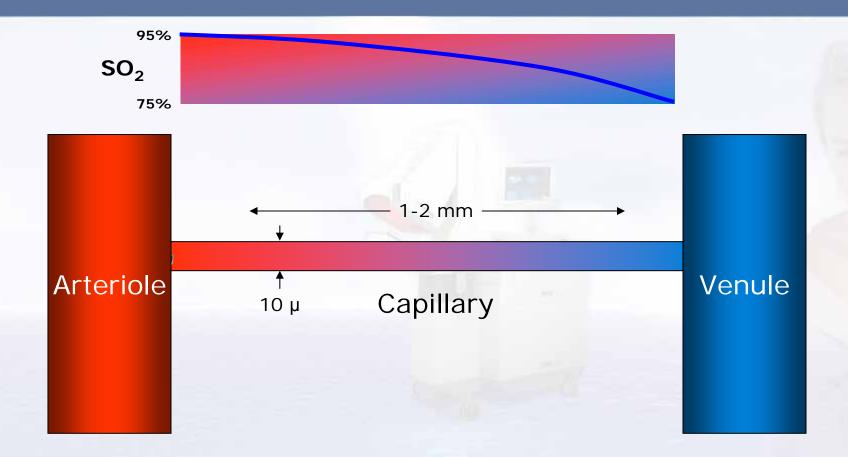
- Highly scattered and diffused
  - Scatter >> absorption
- 640 nm light is absorbed by blood
  - Absorption greater in de-oxy vs. oxy-hemoglobin
- Light absorption increases with:
  - Blood volume
  - Hypoxia



## ComfortScan<sup>®</sup> Imaging Principle



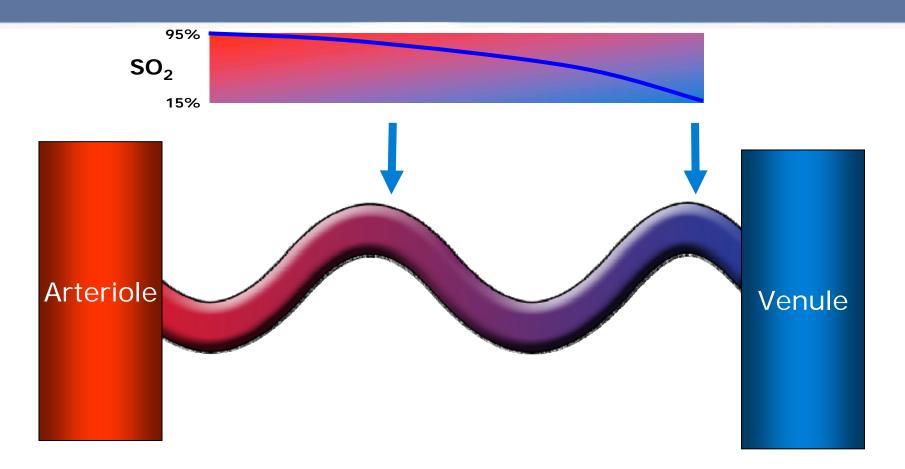
## Effect of Pressure on Angiogenic Vessel



Pressure removes blood from normal Vessel -> No Light Absorption



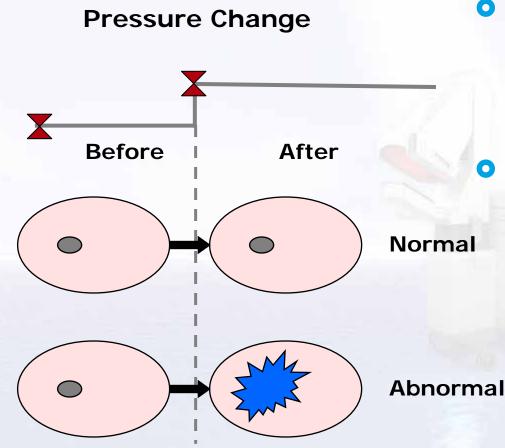
# Effect of Pressure on Angiogenic Vessel



Pressure causes blood block within the Angiogenic Vessel Tumor Angiogenesis absorbs Light



### Dynamic Optical Breast Imaging (DOBI®)



- Use slight pressure stimulus to create contrast between normal and angiogenic areas
- Contrast appears over time in response to pressure
  - Tortuous vessels trap blood
  - High metabolic rate tumor enhances hypoxia
- rmal ComfortScan is sensitive to <u>changes</u> in blood volume and oxygen saturation



#### How ComfortScan Works

• Slight, uniform pressure is applied to the breast to capitalize on the properties of tumor angiogenesis

- 2.5 images per second in < 1 minute
- Pressure change applied to breast (5~10mm Hg)
- Observe provocation induced changes
- Detect <u>changes</u> in tissue light absorption properties
  - Pooling → <u>change</u> in blood volume
  - High metabolic rate  $\rightarrow$  <u>change</u> in blood oxygen levels

Thus, the ComfortScan system is sensitive to unique changes in blood volume and metabolic rates associated with angiogenesis in the breast



#### **ComfortView**

- Image overview,
   *spatial* characteristics
- Breast
   "behavior"—
   *temporal* characteristics
- Area of *angiogenesis*— spatial/temporal characteristics



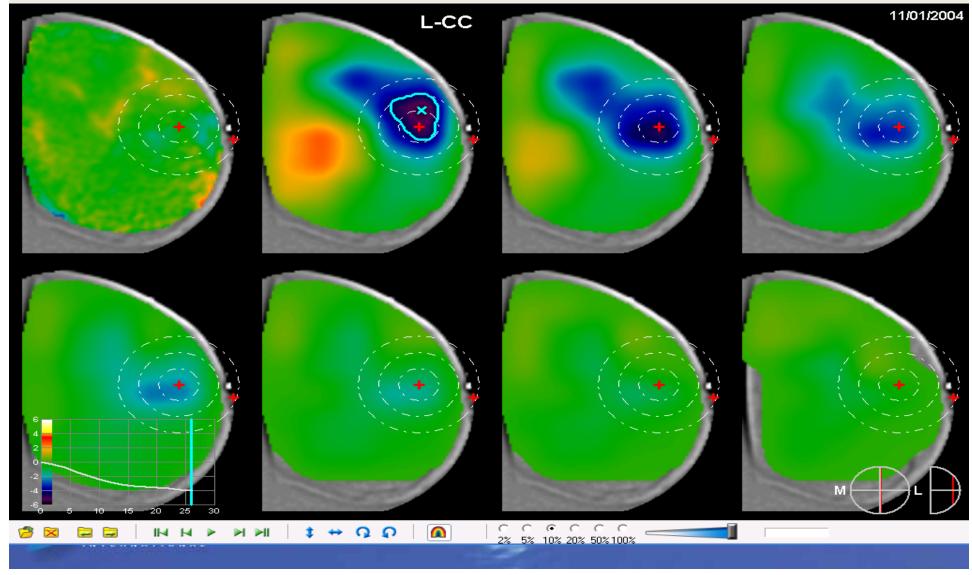


#### 60y woman, Non-palpable 22mm mass Equivocal mammography BIRADS 5 μcalcified Pathology: Ductal Carcinoma.

#### **Case Study**

🗩 DOBI® ComfortView\*\*

Study View Image Playback Annotations Tools Help





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# Comparison with other Breast Imaging Technologies



### **Comparison of Optical Technologies**

Factor	DOBI	IMDS	ART
Technology	DOBI	DOT	TOF
Dynamic or static	Dynamic	Static	Static
Intrinsic contrast	Pressure	None	None
Detects unique angiogenic signature	Yes	No	No
Scan Time	1 minute	~15 minutes	~15 minutes
Analysis Time	10 seconds	~10 minutes	~10 minutes
Price	\$	\$\$	\$\$\$

Among optical imaging techniques, the ComfortScan<sup>®</sup> system is <u>unique</u> in that it exploits the properties of angiogenesis to create and detect discernible contrast differences between angiogenesis and normal tissue

#### **Comparison of Optical Technologies**

#### **Time Domain Imaging**

# Source Detector **Ballistic** Snake Scattered Time **ART**

#### **Diffuse Optical Tomography**





### Imaging Technologies Comparison

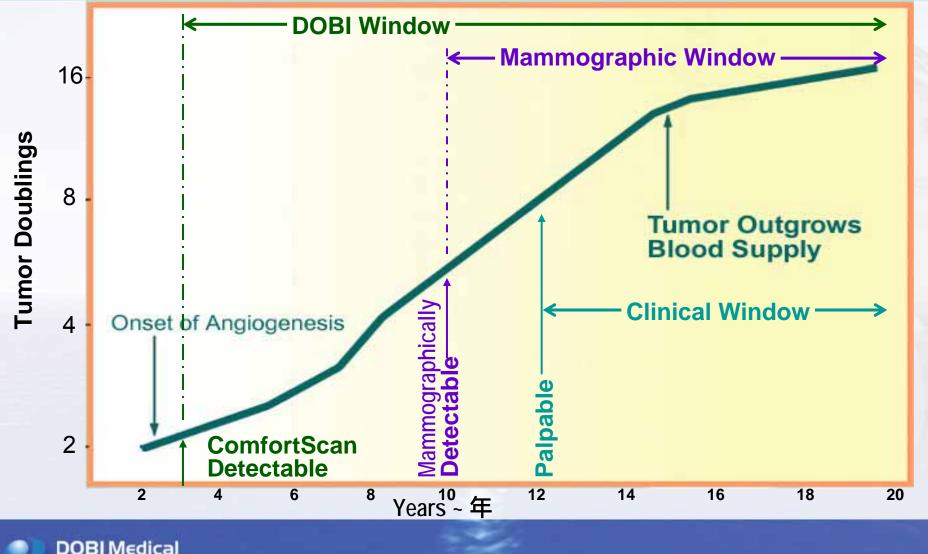
Technology	Sensitivity	Specificity	Imaging Method
Mammography*			
Ages 50 Above	89%	45%	Morphological
Ages 50 & Below	58%	40%	Morphological
Ultrasound *	75%	94%	Morphological
MRI **	96%	69%	Physiological
ComfortScan System ***	92%	67%	Physiological

\*T. Kolb, J Lichy, J. Newhouse - Radiology Oct. 2002: "Comparison of the Performance of Screening Mammography Physical Examination, and Breast US and Evaluation of Factors that Influence Them: An Analysis of 27,825 Patient Evaluations"

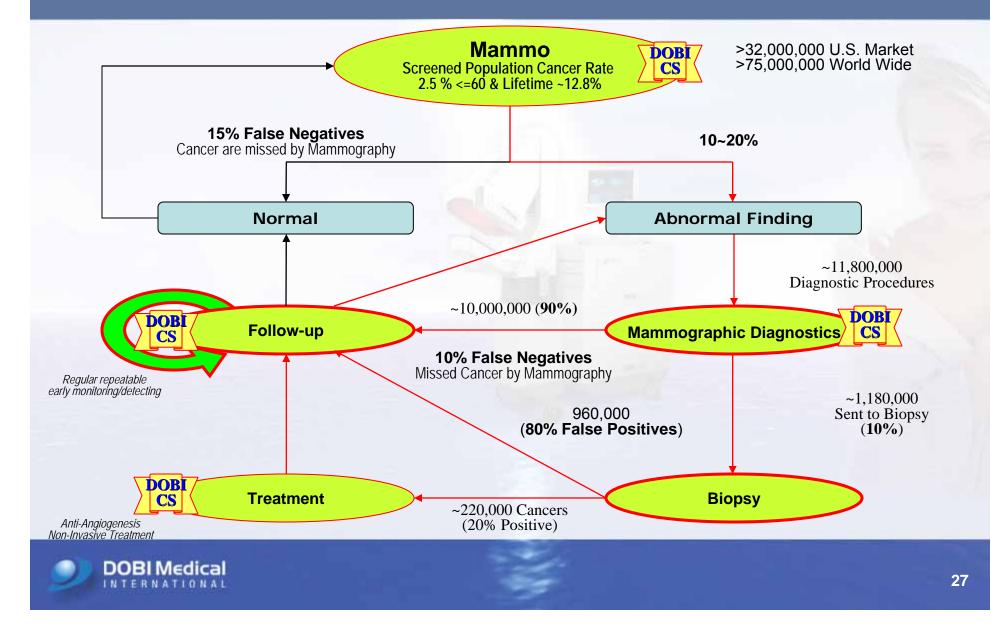
\*\* Kaiser Permanente, Technical Review of MRI 2003

\*\*\*Internal Validation Study for ComfortView Rev.1.0. 2002~2004 316 Patients

### Life Cycle of Breast Cancer – Different Timing



### Mammography Diagnostic Work-up Process



### **Recent DOBI Clinical Results**

	DATE	START	END	MODALITY	DATA	MALIGNANT	SE	SP	PPV	VPN	Accuracy	REGIO	INSTITUATION	INVESTIGATOR
1	10/3/2011	09/2008	03/2010	ComfortScan Ultrasound	617	269	98% 74%	87% 70%				Italy	Centro Chirurgico Magentino, Centro Medico Monte Rosa Humanitas, Habilita Group-Bergamo	V. Frattinia, L. Ghisoni S. Orefice, PL Vaj
2	2011			ComfortScan	113	74	80%	88%				Italy	Multicenters	DOBI Sough European Distributor Socrate Medical
3	2011			ComfortScan Mammography	33	19	83% 94%	67% 13%				Canada	MCMASTER UNIVERSITY	Kyle J. Wilson, Kavita Dhamanaskar, Terry Minuk, and Gerald R. Moran
4	2010	06/2009	09/2009	ComfortScan	32	30	72%	92%	93%	61%	79%	Italy	University of Rome Tor Vergata	Rossella Dandolo
5	10/12/2009	06/2008	12/2008	ComfortScan Ultrasound	391	50	95% 66%	78.80%				Italy	Tecnologie Centro Medico Monterosa	di Piercarlo Salari, Oncologia, Tecnologie
				Ultrasound			00%							Laure S. Fournier, Danier Vaner, Alexandra
6	2009			ComfortScan	46	35	74%	92%	93%	55%	79%	EU	Europea Journal of Radiology 69	Athanasiou, Wolfgang Gatzemeier, I.V. Masuykov, Anwar R.Padhani, Clarisse Dromain, Ken Galetti, Robert Sinal, Alberto Costa
7	2007	11/2004	11/2005	ComfortScan	72	49	73%	38%					International Cancer Imaging Society 7	Alexandra Athanasiou, Daniel Vanel, Laure Fournier, and Corinne Balleyguier
8	2005			ComfortScan MRI	25							EU	Europea Journal of Radiology 54	Alexandra Athanasiou, Daniel Vanel, Cornne Balleyguier, LaureFournier, Marie Christine Mathieu, Suzette Delaloge, Clarisse Dromain
9	2006			ComfortScan								EU	laso Hospital in Greece in Cancer Imaging 6	Abraham A. Ghiatas, K Pavlaki, I Messini, N Karaglani, D Keramopoullos, V Gaki, D Baltas, and N
10	2005			ComfortScan	102	32						EU	laso Hospital in Greece	Bredakis Abraham A. Ghiatas
11		2004	2005	ComfortScan Mammography	100	41	71% 66%	64% 75%			76% 76%	Czech Republic	MASARYK MEMORIAL CANCER INSTITUTE	Irena Komorousova, Bartonkova H., Standara M., Schneiderova M.
12	12/2004	03/2003	2004	ComfortScan	35	30	100%	80%	20%	100%	10,0	us	San Antonio Breast Cancer Symposium	Gatzemeier W, Scelsi M,Galetti K, Villani L, Tinterri C, Secci A, and Costa A
13	05/2004	10/01/2000	09/30/2001	ComfortScan	117	15	87%	77%		98%		US	Scientific and Technical	Suzanne J. Smith
14	09/2004	03/2003	01/2004	ComfortScan ComfortScan	68 52	49	98% 73.68%	63% 75.76%				US	Aerospace Reports 42	DOBI Medical International
15	2010	05/2007	06/2008	Ultrasound ComfortScan+Ultrasound	35 25	19	84.21% 87.50%	37.50% 55.56%				China	301 PLA Hospital	Guojian Tan, Jie Wang, Cui Liu,Chunmian Li, Weiping Wang, John Zhang
16	2010			ComfortScan	52		07.0070	00.0070				China	301 PLA Hospital	Guojian Tan, Jie Wang, Cui Liu, Chunmian Li, John Zhang, Weiping Wang
				ComfortScan(<1cm) Ultrasound(<1cm)			85.70% 71.40%	80.00% 40%			81.80% 50.00%			
17	06/01/2009			ComfortScan(1cm-2cm) Ultrasound(1cm-2cm)	74	33	78.60% 85.70%	64.10% 76.50%			71.00% 80.60%		Chinese PLA General Hospital & Postcarduate Medical School	Mei Xu
				ComfortScan(>2cm) Ultrasound(>2cm)			25% 83.30%	44.40% 77.80%			33.00% 81.00%			
18	2008			ComfortScan Ultrasound	64	30	83.30% 80.00%	80% 85%			81.50% 83.10%	China	301 PLA Hospital	Yongfeng Zhang, Junlai Li, Xuejuan Shi, Mei Xu
				ComfortScan+Ultrasound ComfortScan(Overall) ComfortScan(<2cm2)			93.30% 89.62% 93.75%	82.90% 68.42% 86.49%			87.70% 78.63% 88.67%			
19	02/2011	2008	2009	ComfortScan(<2cm2) ComfortScan(>=2cm2) ComfortScan(<1cm)	220	131	93.75% 94.12% 91.67%	86.49% 66.67% 88.24%			88.67% 84.61% 89.13%	China	Multicenters	G. Zhang, W. Lin and Wang Yan
				ComfortScan(>=1cm) Non-Palpable			95.24% 87.67%	66.67% 58.82%			84.84% 73.75%			
20	02/2011	2008	2009	ComfortScan+Ultrasound	53	21	90.50%	84.40%			86.60%	China	Multicenters	G. Zhang, W. Lin and Wang Yan
21		2005	2006	ComfortScan	62	31	83.90%	61.30%		79.2%		China	Peking Univisity People Hospital Capital Univisity Chaoyang Hospital	G. Zhang, W. Wang, D. Yang and H. Jiang
DOE	I Averagin	g Statistic	s		2328	958	83.87%	73.90%	68.67%	78.64%	78.13%			



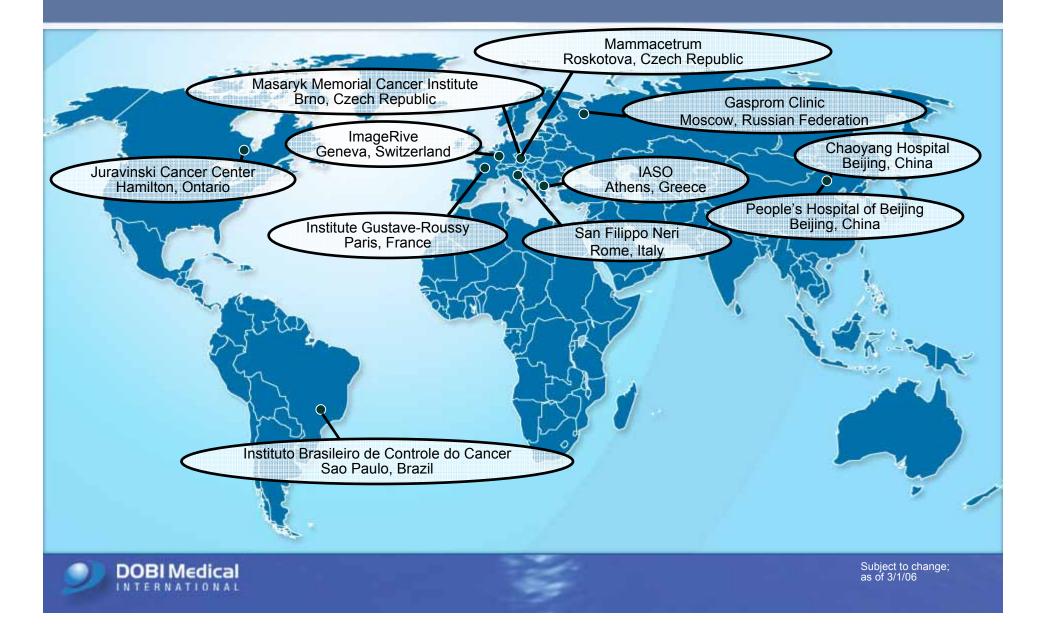


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# DOBI Market Approval Development



#### International Clinical/Regulatory Activities



## Past PMA Sites Summary (2002~2006)

Virginia Mason Hackensack UMC University of Iowa Thomas Jefferson Sally Jobe **Breast Care** Loma Linda University Nashville Breast Center Specialists St Joseph Hospital UNC Women's Health Center -**Baptist Hospital** USC University of Texas Southwestern York Clinical **Coral Springs** Scanning - 17 **OGA-Houston** Wellington New clinical sites - 9 Subject to change **DOBI** Medical INTERNATIONAL

As of 7/11/05

#### **DOBI Production Quality System**

#### Intertek



Certificate Number SSC-0113

Initial Certification Date January 6, 2011

Certificate Issue Date January 6, 2011

Certificate Expiry Date January 6, 2014



#### Certificate of Registration

The following organization's quality management system has been assessed and registered by Intertek Testing Services NA Ltd. as conforming to the requirements of:

#### ISO 13485:2003

Organization:

#### **DOBI Medical International Inc.**

7 Thompson Road, East Windsor, Connecticut, 06088, USA

The Quality Management System is applicable to:

Design, manufacture and distribution of Dynamic Optical Breast Imaging Systems and Accessories.

In the issuance of this certificate, Intertek assumes no liability to any party other than to the Client, and then only in accordance with the agreed upon Certification Agreement.

Intertek Testing Services NA Ltd. - Lachine, QC, Canada







#### **European Market Approval**



Certificate Number 1001 CE

Initial Certification Date 03 February 2011

Certificate Issue Date 07 February 2011

Certificate Expiry Date 02 February 2016

The conditionation is subject to the organization maintaining their system in compliance with the regulations stated in this conditionate, allowing history of the regulation hadrowing the conducted requirements of the Notified Body.

This Continue is for the exclusive lase of AMTAC's client and is provided purtualed to the agreement behaviour AMTAC's responsibility and lability are limited to the terms and conditions of the model of the second second the second second second responses of the second accordance with the accordance of damage occasioned by the use of this Certificate. Only the Client is although to accord a although to accord a although the action of the second of the based or acce of the second of the based and the second of the based material, product or service material be approved in

AMTAC Certification Services Limited is carried by AMTAC Certification Services Holdings Limited, which is a wholly carried subticfury of Interfek UK Holdings Limited.

AMTAC Condition Services Limitod is a Netflied Body according to Directive 93:442 EEC Ar medical devices, with identification chamber 0472.

AMTRC Conficution Services Limited Davy Avenue Million Acquest Million Acquest

#### EC Certificate

FULL QUALITY ASSURANCE SYSTEM Directive 93/42/EEC for Medical Devices, Annex II excluding (4)

We hereby declare that an examination of the under mentioned full quality assurance system has been carried out following the requirements of the UK national legislation to which the undersigned is subjected, transposing Annex II (with the exemption of section 4) of the Directive 93/42/EEC on medical devices. We certify that the full quality assurance system conforms with the relevant provisions of the aforementioned directive, and the result entitles the organization to use the CE 0473 marking on those products listed below.

Organization:

#### DOBI MEDICAL INTERNATIONAL, INC

7 Thompson Road, East Windsor, CT 06088, USA

Dynamic Optical Breast Imaging Systems Model/type: ComfortScan

Authorized Signatory:

Creft )

AMTAC Certification Services Limited, Milton Keynes, UK

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## China Market Approval

中华人民共和国 PEOPLES REPUBLIC OF CHINA

医疗器械注册证

注册号: 宾食药监械(准)字 2011 第 2240035号

新奥博为技术有限公司:

你单位生产的动态光学乳腺成像系统,经审查, 符合医疗器械产品市场准入规定,准许注册,有效期 自批准之日起四年。

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10件:三疗器械注册登记表



## Russia Market Approval





#### China Initial Sales : 2008~2010





## Italy Initial Sales : 2008~2010





## Screening Project in Italy

Istituto Nazionale dei Tumori Fondazione G. Pascale 1º European Focus Meeting

> 24 - 25 June, 2010 Castel dell'Ovo, Naples www.uwbc.ll

### Underforty Women Breast Care



Excellence in young women breast care

Chairmen Giuseppe D'Aiuto, Tonino Pedicini, Aldo Vecchione

> Scientific Coordinator Massimiliano D'Aiuto





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#### Screening Project in China





#### **Screening Potential in America**

 U.S. Preventive Services Task Force (USPSTF) recommendation on Nov. 2009

- Against routine screening mammography in women aged 40 to 49 years
- Biennial screening mammography for women between the ages of 50 and 74 years.
- The USPSTF recommends against teaching breast selfexamination (BSE).
- The USPSTF concludes that the current evidence is insufficient to assess the additional benefits and harms of either digital mammography or MRI instead of film mammography as screening modalities for breast cancer.

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# DOBI Screening Product

ComfortScreen Development



### **On-going Technological Enhancements**

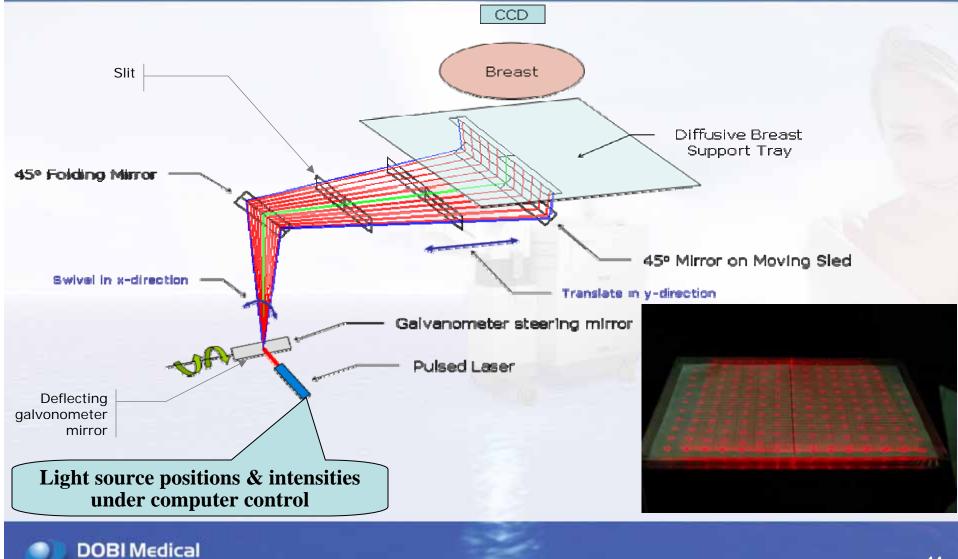
- Multi-wavelength data acquisition
- Larger field of view for full breast imaging
- Variable views of the breast
- Enhanced small breast imaging
- 3D imagery
- Integration of optical capabilities with other imaging modalities such as ultrasound, etc.



## ComfortScreen Compared to ComfortScan

	ComfortScreen	ComfortScan	
Light Source	Laser	LED	
Number of light Sources / Geometry	180 (Slow Mode) ~ Super Cluster (easily reconfigurable)	<b>127</b> ~ Row	
Number of source locations (bottom scan)	~ <b>4000</b> (Fast Mode)		
Max light Sources per scan Number of source locations (voxel model)	180	5	
Light Source Spacing	20 mm	12.5 mm	
Active Scanning Area	<b>28</b> x <b>22</b> cm <sup>2</sup>	<b>18</b> x <b>12</b> cm <sup>2</sup>	
Adaptive scanning with breast size	Yes	No	
Wavelengths	658 nM, 808 nM and 730 nM, 940 nM	635 nM	
CCD Resolution	<b>64 x 64</b> (~3.8 mm/pixel)	<b>102 x 128</b> (~1.7 mm /pixel)	
CCD Frame Rate	180 Frames/Sec	2.5 Frames/Sec	
CCD integration time	<b>~ 5</b> msec	<b>200</b> msec	
Fast mode photodiode integration time	<b>~ 40</b> μsec		
Breast Tray Angle	Horizontal	30 Degrees off Horizontal	
C-Arm Rotation	<b>Yes</b> (Not in prototypes)	NO	
Scan Time	~ 1 minute	~ 1 minute	
Soft Holder Pressure	<b>5 ~ 10</b> mmHg (max)	<b>5 ~ 10</b> mmHg (max)	
File Size	80+ Mbytes	4+ Mbytes	

#### ComfortScreen Optical Delivery System



## Engineering Prototype – W.I.P.



#### ComfortScreen – System Improvement



- Better to fit small breasts
- Easier to position breasts
  - Multi-wavelength
  - Scan time < 1 minute</p>
  - Adaptive scanning

- Full-field acquisition
- Accommodates large or small breasts

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- CC view
- MLO view



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# DOBI Global Fundraising

US Operation ComfortScreen Developing



# **DOBI Global Company**

## DOBI Global

- Manufacturing
- Marketing, Sales & Services
- Technology & Product R&D

#### DOBI Technology and Products

- DOBI Technology Intellectual Property
- DOBI ComfortScan Product
- ComfortScan Production Line : QSR
- DOBI ERP Systems
- ComfortScreen Engineering Prototype
- International Market Reorganization
  - Awareness & Acceptance of DOBI ComfortScan through Initial Sales
  - Fifty conceptual purchasing orders in 2012

# **DOBI Global Intellectual Property**

**DOBI Medical** 

#### **DOBI Intellectual Property List with their Values**

25 Year			
Developing	1	ComfortScan Production Line	30,000,000
	2	Quality Management System	10,000,000
10 Year Product Development	3	ERP System	10,000,000
	4	Comfort Screen Engineering Prototype	5,000,000
	5	Clinical Data	20,000,000
	6	Inventory	5,000,000
	7	CS/CV/CN/etc. Software	30,000,000
	8	Patents & Treadmark	5,000,000
	9	Technical Documents & Website	5,000,000
	10	Derivatives / Know How	10,000,000
6 Year Marketing	11	Certificates: ISO13485/CE/FDA-EOC/SFDA	5,000,000
	12	Marketing Brand & Materials	10,000,000
	13	Supply/Distribution Channels & Sales Contracts	55,000,000
Development	<u>T0</u>	TAL	200,000,000

## **DOBI Global Old Patents**

1.	US 5,699,797	Covers a method and apparatus for the investigation of microcirculation functional dynamics of physiological liquids in skin.		
2.	US 5,730,133	Relates to the invention of an optical mammoscope.		
3.	US 5,747,789	Covers a method and apparatus for the optical investigation of physiological components in the human body, such as blood hemoglobin.		
4.	US 5,865,167	Relates to a method and apparatus for living system diagnostics. The subject matter of this application is also covered in a European patent and a Canadian patent application.		
5.	US 5,865,743	Relates to a method of living organism multimodal functional mapping.		
6.	US 6,002,958	Covers a method and apparatus for the optical and acoustic diagnosis of internal organs.		
7.	US 6,192,262 B1	Covers a method of living organism multimodal functional mapping.		
8.	US 6,243,484 B1	Covers a non-rigid object holder assembly for use in examination of an object having a base.		
9.	US 6,587,578 B2	Covers the dynamic-functional imaging of biological objects using a non-rigid object holder.		
10.	Canada No. 2,126,227	Covers method of living system organism diagnosis and apparatus for its realization.		
11.	European Patent No. 0612500	Covers a method and device for diagnosis of living organisms. Covers: France EP 0612500 U.K. EP 0612500 Germany 69 227463 Italy 19487BE/99		

#### International Patent Applications

1.	Canadian Patent Appl. No. 2,303,380	Covers the dynamic-functional imaging of biological objects using a non-rigid object holder; filed 3/20/98.		
2.	European Patent Appl. No. 02726963.8-1265	Covers the dynamic-functional imaging of biological objects using a non-rigid object holder; filed 6/3/02; to be published in <i>E Patent Bulletin</i> 3/16/05.		
3.	EP Patent Appl. No. 98914268.2	Covers the dynamic-functional imaging of biological objects using a non-rigid object holder; based on International Appl. No. PCT/US98/05559; filed 3/20/98; international priority date 3/21/97 (US counterpart is Patent No. 6,243,484).		
4.	EP Patent Appl. No. 0272693.8	Covers the dynamic-functional imaging of biological objects using a non-rigid object holder; EP Publication No. 1514223.		
5.	Czech Patent Appl. No. PV 2004-6	Covers the dynamic-functional imaging of biological objects using a non-rigid object holder; based on International Appl. No. PCT/US02/17308.		
6.	Hungary Patent Appl. No. P 04 01966	Covers the dynamic-functional imaging of biological objects using a non-rigid object holder; based on International Appl. No. PCT/US02/17308; filed 6/3/02.		
7.	Japanese Patent Appl. No. 2003-502770	Covers the dynamic-functional imaging of biological objects using a non-rigid object holder; filed 6/2/02; published 11/18/04.		
8.	Slovakia Patent Appl. No. PP 0004-2004	Covers the dynamic-functional imaging of biological objects using a non-rigid object holder. Based on International Appl. No. PCT/US02/17308; filed 6/3/02.		
9.	Hong Kong Patent Appl. No. 05102449.8	• • • • • •		



## **DOBI Global New Patents**

#### To maintain the technology leading position Ten New Patents will be Applied

- Airless Compression
- Optical Scanner Coupled to Slot Scanning Full Field X-Ray System
- Dynamic Illumination Control
- LED Multiple Wavelengths in single package for this application
- Two Axis Scanning laser for trans-illumination of breast tissue\
- An optical based palpation device used for the detection of breast abnormalities.
- Inverse geometry Multiple sources, one detector
- Light Scatter reduction method for optical scanner
- Method for "Auto Selecting" illumination sources to investigate specified region of interest.
- Dual Wavelength image processing algorithms

## **Market Competition**

# o Diagnostic

- Method
  - Mammography
  - Ultrasound
  - MRI
- Company
  - GE
  - Siemens

# Screening

None

## Mammography Market

- 2015 \$0.925 Billion USD world
- 2017 \$1 billion USD US
- 2016 \$1.656 billion USD Europe
- 8.62% Increasing Rate after 2008
   \$300 million USD

## Reference

- Screening Market is 60% of the total market
- Market Segmentation:
  - US:40%
  - EU+Japan:40%
  - Rest:20%



## **Use of Funds**

#### • Fundraising

- 2012 Three (\$3) million US dollars for US Operation
  - To continue marketing development of ComfortScan
    - maybe 510(k) in US
  - To develop DOBI ComfortScreen
- 2013 Additional three (\$3) million US dollars
  - To industrialize the ComfortScreen
  - To develop international market/approval
- 2014~2016 Fifty (\$50) millions US dollars for ComfortScreen FDA PMA if needed

### Exit Strategy

- · A sale of the Company to a large imaging firm
  - such as GE Medical, Siemens, Kodak or Hitachi
- IPO

# **Five Year Sales Projection**

	2012	2013	2014	2015	2016	Total
ComfortScan	\$ 1,000,000	\$ 2,500,000	\$ 5,000,000	\$ 9,000,000	\$ 18,000,000	\$ 35,500,000
ComfortScreen	\$ -	\$ 500,000	\$ 2,250,000	\$ 10,500,000	\$ 21,875,000	\$ 35,125,000
ComfortCluster	\$-	\$ 2,450,000	\$ 11,200,000	\$ 22,400,000	\$ 39,200,000	\$ 75,250,000
Annual Revenue	\$ 5,000,000	\$ 22,000,000	\$ 63,000,000	\$ 138,500,000	\$ 245,500,000	\$    474,000,000
Net Profit	\$ 1,000,000	\$ 5,450,000	\$ 18,450,000	\$ 41,900,000	\$ 79,075,000	\$ 145,875,000
Profit Percentage		445.00%	238.53%	<mark>%</mark> 127.10%	88.72%	



# **DOBI Core Team**



**Dr. Lei Zhao** (Clinical Application Advisor)



**Dr. G John Zhang** (President & CEO)



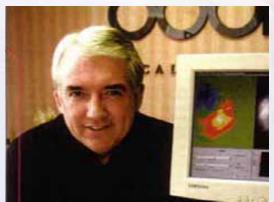
Dr. Weiping Wang ( Medical Device Advisor )



**DOBI** Medical

**Dr. Wei Lin** (Algorithm Scientist)

Phillip C Thomas (Business Adviser)







A New Light in the Breast Cancer World

## Thank You!

