

Presentation to Photocure's  
Capital Market's Day by  
The Pao Principle  
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# About the Pao Principle

The Pao Principle, based in New York City, is a global business consulting firm that devises and executes strategic growth across a wide range of industries, specializing in the beauty, fashion, retail and luxury goods markets.

In the skin care market, the Pao Principle's clients include Avon, Guerlain, Elizabeth Arden, Peter Thomas Roth Labs, Garden Botanika, Purlisse and Amenity



# Commercial opportunities in aesthetic dermatology and skincare



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women want to preserve  
their skin's youthful  
appearance



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# but anti-aging does not equal anti-wrinkle

Wrinkles, while being primarily associated with aging, are just one of several signs of aging that products attempt to reverse or reduce.

Anti-aging products must address skin clarity, darkening pigment, loss of firmness, age spots, acne and uneven skin tone, which cause a decline in the skin's overall youthful appearance.



# women desire the elusive “rosy glow”

Often, the biggest factor of aging is the overall tone of the skin.

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As we age skin becomes duller; this change in skin tone/color occurs in all ethnic groups.

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Women are constantly searching for the elusive “rosy glow” of luminous, clear, and vibrant looking skin.

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Women want softer, firmer, brighter skin, with less visible pores and more even tone.



# in their quest for the “rosy glow,” women turn to both consumer products and dermatologic treatments

Across the globe, the skin care market is booming.

The world skin care market had sales of \$75.8 billion in 2008, up 60.4% from 2003 ( and up 10.4% from 2007).

# as a result, 2003-2008 U.S. skincare retail sales grew 18.2%

In the U.S., 2008 sales were up 1.1% vs. 2007, reaching US \$8.3 billion.

From 2003 - 2008, U.S. premium skin care sales grew by 18%. This growth is attributed to the anti-aging category, which increased 58.8% to \$2.5 billion in 2007.

Because of the American woman's unrelenting desire for beauty, sales of anti-aging products are expected to continue to grow despite a bleak economy.



# in the U.S., facial skin care is the fastest growing subsector

In U.S. Millions	2006 (millions)	2007 (millions)	'06- '07 % Change	2008	'07- '08 % Change
Face	5,835.9	6,205.7	6.3	6,335.7	2.1
Body	1,830.5	1,880.8	2.7	1,843.3	-2.0
Hand	115.3	121.5	5.3	116.9	-3.8
Total	7,781.7	8,207.9	5.5	8,295.8	1.1



# and anti-aging dominates facial skin care sales

In U.S. Millions	2006	2007	'06 - '07 % Change	2008	'07 - '08 % Change
Moisturizer	1,625.3	1,682.3	3.5	1,633.5	-2.9
<b>Anti-aging</b>	<b>2,073.0</b>	<b>2,301.4</b>	<b>11</b>	<b>2,478.4</b>	<b>7.7</b>
Cleansers	1,449.8	1,511.9	4.3	1,510.9	-.1
Toners	338.9	336.2	-.8	330.1	-1.8
Masks	69.7	61.7	-11	59.5	-3.6
Lip	279.2	312.1	11.8	323.3	3.6
Total	5,835.9	6,205.7	6.3	6,335.7	2.1



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# cosmetic dermatology is a major player the skin care market



Many dermatologists, plastic surgeons, and other cosmetic-focused physicians have found that capitalizing on the American woman's desire for youthful skin is lucrative.



# most U.S. dermatologists perform cosmetic treatments

Approximately 80% of US dermatologists carry out some cosmetic Work (NovaSecta primary research).

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In a survey for the AAD, dermatologists claimed that they devote upwards of 4 hours of a 32 hour patient-consulting week to cosmetic dermatology (Jacobson, 2004).

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There were over 9,000 office-based dermatologists and 6000 office-based plastic surgeons in the US in 2008 (Physician Characteristics and Distribution in the US, 2009 edition. 2007 office-based dermatologists by self designated speciality (excludes hospital-based and teaching/research-focused))

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There are around 5,000 medical spas in the US in 2009; about 50% are run or represented by dermatologists and plastic surgeons (The International Medical Spa Association 2009).



# skin rejuvenation procedures performed by dermatologists generate billions in sales

Skin rejuvenation procedures are an established US \$4 billion market driven by an aging population.<sup>1</sup>

A typical facial rejuvenation patient is a “middle class” female, aged 40-60. Over-40s should increase from 38% of the US population in 1990 to 50% of the population in 2040.<sup>2</sup>

Typical medical spa clients are 30-55 years old with annual incomes of US\$35,000-US\$40,000.<sup>3</sup>



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<sup>1</sup> from American Society for Aesthetic Plastic Surgery, 2004-2007

<sup>2</sup> Population Division of Department of Economics and Social Affairs of the United Nations Secretariat

<sup>3</sup> Medical Spa Proprietary Survey Findings, January 2009

# cosmetic dermatology has many major players

## Allergan Botox

“Allergan will responsibly market BOTOX® Cosmetic to aesthetic specialty physicians. These specialty physicians include dermatologists, plastic surgeons, facial plastic surgeons, oculoplastic surgeons, ophthalmologists and maxillofacial surgeons.”

## Bioform Medical Radiesse

“We market RADIESSE® to dermatologists, plastic surgeons, facial plastic surgeons, and other physicians performing cosmetic procedures.”

## Fraxel & Thermage

“Our sales force has historically sold primarily to dermatologists and plastic surgeons... sales to non-traditional practitioners of aesthetic procedures is a key element of our growth strategy.”



# skin rejuvenation procedures are the fastest growing of all cosmetic procedures

80% of non-surgical cosmetic procedures in the US in 2007 were for skin rejuvenation.

1 million were laser-based facial rejuvenation procedures.

Average U.S. annual volume growth (2004-2007):  
Cosmetic procedures = 0.4%.

Non-surgical cosmetic procedures = -0.3%  
**Light/heat-based non surgical cosmetic procedures = +14.6%.**



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## 2007 volume of skin-rejuvenation procedures in the U.S.

Procedure	No. procedures
<b><i>Botox injection</i></b>	<b>2,775,176</b>
<b><i>Hyaluronic acid (Hylaform, Restylane) (TF)</i></b>	<b>1,448,716</b>
Laser hair removal	1,412,657
<b><i>Microdermabrasion</i></b>	<b>829,658</b>
<b><i>IPL laser treatment (FR)</i></b>	<b>647,707</b>
<b><i>Chemical peel</i></b>	<b>575,080</b>
<b><i>Laser skin resurfacing</i></b>	<b>509,901</b>
Sclerotherapy	471,639
<b><i>Noninvasive tightening (FR)</i></b>	<b>258,235</b>
Laser treatment of leg veins	182,093
<b><i>Fraxel (FR)</i></b>	<b>167,351</b>
<b><i>Calcium hydroxylapatite (Radiesse/Radiance) (TF)</i></b>	<b>119,397</b>
<b><i>Collagen (TF)</i></b>	<b>63,769</b>
<b><i>Autologous fat (TF)</i></b>	<b>44,547</b>
Injection lipolysis	36,056
<b><i>Poly-L-Lactic Acid (Sculptra) (TF)</i></b>	<b>34,972</b>
<b><i>Dermabrasion</i></b>	<b>32,968</b>
<b><i>Polymethyl Methacrylate (Artecoll, Artefill) (TF)</i></b>	<b>12,075</b>
<b>Total Nonsurgical Procedures</b>	<b>9,621,999</b>

Note: FR =  
facial  
rejuvenation,  
TF = tissue  
filler

From  
American  
Society for  
Aesthetic  
Plastic  
Surgery,  
2004-2007



# light-based rejuvenation procedures can generate US\$200 million to the practitioner

Skin rejuvenation non-surgical procedure market was worth US \$4 billion in 2007.

Average annual value growth (2004-2007):

- Cosmetic Procedures = +1.9%
- Non-surgical cosmetic procedures = +0.5%
- **Light/heat-based non-surgical cosmetic procedures = +15.1%**

## 2007 value of light-based rejuvenation procedures in the U.S.

Procedure	Value (US\$mn)
Botox injection	\$1,055
Hyaluronic Acid (incl. Hylaform, Juvederm, Perlane/Restylane)	\$834
Laser hair removal	\$547
Chemical peel	\$413
<b>Noninvasive Tightening</b>	<b>\$308</b>
<b>IPL Laser Treatment</b>	<b>\$266</b>
Laser skin resurfacing - Nonablative	\$250
Laser skin resurfacing - Ablative	\$190
<b>Fraxel</b>	<b>\$189</b>
Sclerotherapy	\$178
Microdermabrasion	\$108
Calcium Hydroxylapatite (Radiance)	\$96
Laser treatment of leg veins	\$84
Soft Tissue Fillers: Autologous fat	\$69
Dermabrasion (does not include microdermabrasion)	\$51
Poly-L-Lactic Acid (Sculptra)	\$36
Injection lipolysis (mesotherapy/lipodissolve)	\$33
Collagen, Human (incl. Alloderm/Cymetra, etc)	\$25
Polymethyl Methacrylate (Artecoll, Artefill)	\$14
Collagen, Bovine (includes Zyderm/Zyplast)	\$7
<b>Total Nonsurgical Procedures</b>	<b>\$4,752</b>
<b>Average procedure cost (US\$)</b>	<b>\$494</b>

Note: FR = facial rejuvenation, TF = tissue filler

From American Society for Aesthetic Plastic Surgery, 2004-2007



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# although there are many cosmetic dermatological products, few produce that “rosy glow”

Retin-A and Hydroquinone are two of the most popular treatments. However, there are safety issues associated with hydroquinone because it works by killing cells.

Companies are searching for technologies that provide parity-to-superior results of hydroquinone without the associated safety issues.

Retin-A is considered the “gold standard” for anti-aging.

However, Retin-A and its cosmetically approved version, Renova have not performed to their full potential due to the significant side effects associated with the active ingredient. Alternatives such as AHAs/BHAs and peptides rose to prominence, but their efficacy is inferior to Retin-A.

As a result, women are continually seeking products/treatments with performance equivalent to Retin-A’s without the side effects.



# Photodynamic Therapy appears to be highly effective and fills a gap in the cosmetic dermatology market

There is strong evidence that PDT is effective in skin rejuvenation. (1)

Various studies document PDT's age-reversing properties (2 & 3)



(1) Goldman, M.P. (2008). Procedures in cosmetic dermatology series: Photodynamic therapy: Chapter 13: Skin rejuvenation with ALA includes Levulan photorejuvenation protocol

(2) Photo-rejuvenation effects of MAL, Zane (2007)

(3) Superiority of ALA + IPL over IPL alone, Gold (2006)

# and light-based therapies are already accepted in the cosmetic dermatology market

U.S. Dermatologists and medical spas already use ALA Off-label for photo-rejuvenation

*“I specialize in PDT- for anti-aging, I usually give three treatments” Dr. Ilyse Lefkowitz, New York City, New York*

*“I have used the [Dusa] Kerastick for years with great results” Dr. Madeleine Krauss, Boston, Massachusetts*

*“PDT is a great way to treat photo-aging” Dr. Elliott Battle, Jr. Washington D.C.*



# PDT is one of the few procedures that provides the elusive “rosy glow”

Initial trials have shown that PDT produces the sought-after “rosy glow” that women have tried for years to attain. Feedback indicates that U.S. dermatologists are ready to add a cosmetic PDT treatment to their offerings.



# photodynamic technology appears to effectively treat the appearance of photo-damaged skin

PDT initial results:

Texture: Skin looks softer and smoother

Tone: Skin color looks more even

Regularity: Fine lines and wrinkles look smoothed out

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NOTE: Photodynamic Technology does not appear to effect the appearance of deep lines and wrinkles or dark spots.

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A product that delivers a skin that looks softer, smoother — like “baby skin”—luminosity, and the coveted “rosy glow” while pores and the lines around the mouth looks diminished is within reach.



# summary

Women want to slow the aging process and attain that elusive “rosy glow.”

As a result, the U.S. skin rejuvenation market was worth \$4 billion in 2007.

Though many skin-rejuvenation and anti-aging products are available for use by dermatologists, PDT best creates that “rosy glow” by producing a skin that looks smooth and soft with even tone.

PDT is the future of cosmetic dermatology; both consumers and dermatologists are ready to experience its benefits.<sup>25</sup>