Ethocyn Reverses the Signs of Facial Aging

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- Fully trained General Surgeon, Plastic Surgeon
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Today’s Presentation Format

- General Introduction Statements  
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Physician Information Brochure Summarizing Ethocyn Preclinical and Clinical Studies
“The single most important cause of age related wrinkles is the loss of skin elastin fibers. Elastin fibers are the restorative force on the skin. Everyone, whether male or female, will begin to lose skin elastin fibers at age 25. Only one product in the world can restore your elastin levels to that of 20 year old skin: Ethocyn.”

-Peter T. Pugliese, MD
-Author of the medically acclaimed “Skin Physiology II” and “Advanced Professional Skin Care”
Elastin’s Role In Wound Healing

- Mechanism of Aging: Intrinsic and Extrinsic factors involved
- Intrinsic skin aging associated with delayed wound healing
- Decrease in: GF’s; TIMP; collagen; elastin and dermal thickness
- Elastin fibers: Decrease in quantity and increase in fiber size
- Observation: Reduced skin elasticity
- Clinical: Dryness, looseness, thinning, wrinkling
- Ethocyn Unique solution to improve Elastin quantity and quality
Etiology of Skin Aging

- Intrinsic Aging (Chronological)
- Extrinsic Aging (Photo-aging)
Skin is comprised of collagen and elastin fibers.

- Collagen fibers are the structural fibers of the skin.
- Elastin fibers are the important “Youth Protein” fibers of skin.
- Young skin is abundant in elastin fibers. As we age elastin fiber content decreases.
- Skin elastin fibers are what gives skin its retraction and snap.
- It is elastin that gives young skin its firmness, smoothness, and resiliency.
As tissue elastin levels decrease in quantity and quality with age:

Skin becomes less elastic
Skin loses its firmness and starts to sags
Development of wrinkles & rhytids
The ETHOCYN® Molecule

Structure • Mechanism of Action • Safety • Efficacy

• Small (mwt 266), lipophilic compound, 8 stereo-isomers’ racemate structure

• Proven (IND issued by FDA) to be a safe, topical, non-steroidal, target tissue, DHT receptor specific anti androgen (AA)

Penetrates to dermis into fibroblast cells via passive diffusion; confirmed in C\textsuperscript{14} and H\textsuperscript{3} trans dermal penetration studies: in vitro fibroblast assay., animal models for AA and clinical pharmacokinetic.

• Competitive DHT-DHT receptor specific blocker
100% metabolized to a non AA within the skin dermis. No systemic absorption. C14 studies: \textit{in vitro}, animal and clinical.

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The Ethocyn Molecule
Its Design and Research & Development

Dr. Chantal Burnison:
- Biochemist, cell physiology and DHT receptor modulation
- Inventor, non-steroidal anti-androgen compounds (Composition of Matter; Process and Use patents)
- Attorney, California (State Bar; Calif. Supreme Court; Central District Court)
-Formerly: Director of Research and Development at Interferon Pharmaceutical
-Presently: Chief Operations Officer at BCS Pharma Corporation

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THE ETHOCYN MOLECULE
Registered Worldwide as a Unique Cosmetic

- 6-(5-ethoxyhept-1-yl) bicyclo [3.3.0] octan-3-one
- $20 million & nineteen years of research and development
- 11 Step organic synthesis: expensive COG of US $100,000 per kilo
- Trade Secret IP wrt active and safe enantiomers (safety + efficacy)
Ethocyn Statement

Ethocyn
A Clinically Proven, Topical, bid Regimen, Safe, Target Tissue, Non-Steroidal Cosmetic Ingredient.

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Ethocyn: A Proprietary Racemate Compound

Patents and Trademarks Issued And Pending Worldwide

**Patents**
- Composition of Matter
- Process
- Use

**Trademarks**
- chanTal
- by chanTal
- Ethocyn
- Procol
- CP Logo

**Trade Secret**
- Isomeric Composition
- Stereo specific Synthesis
- Exo- and Endo- ratio Studies
- IND Submissions
Ethocyn Worldwide R & D Testing
44 studies; 5 species;
*In Vitro*, Animal and Univ. Medical Centers’ Clinicals
Cellular Physiology of
the DHT Receptor - DHT Binding

- All Individuals are born with DHT receptors in their fibroblast cells
- We are genetically predisposed to inheriting the quantity of DHT receptors
- As we age, the number of DHT receptors increase
- Ethocyn competitively blocks intracellular DHT- DHT receptor binding
- Net result is an increase production of elastin by fibroblast cell in the presence of Ethocyn
The Modulation of Elastin Production by Fibroblast Cells

Confirmed to Be Modulated By DHT- DHT Receptor Binding

• Circulating Testosterone (T) in males and Androsteinedione (A) in females passively defuses into fibroblast cells

• T and A converted to DHT via (5 alpha reductase) enzyme

• In absence of Ethocyn the DHT binds to the DHT receptor

• Bound complex translocates to the nucleus

• When bound complex hits nuclear membrane: signals nucleus to decrease/stop producing elastin protein

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Ethocyn Clinical Trials

- Protocols
- Data
- Results
- Conclusions

Ethocyn: clear, colorless oil

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The Ethocyn Molecule Penetrates to the Skin Dermis

- Organically synthesized (11 step); non-steroidal anti-androgen.

- Has a molecular weight of 266

- Penetrates (C^{14}, H^3) through the stratum corneum to the dermis to competitively block DHT-DHT receptor binding in fibroblast cells
Ethocyn Pharmacokinetic Profile Confirms A Topical, Safe, and Efficacious Cosmetic Ingredient

100% conversion via β oxidation in dermis to non-AA (Ethocyn → Cyoctol → Hydroxy)

CONCLUSION: Parent non-steroidal AA Ethocyn molecule never enters systemic circulation. Pharmacokinetic profiles in 3 species including human C\(^{14}\) studies (Groningen, Holland)

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U.C.L.A. Medical Center Ethocyn
Clinical Trials

• Dr. Richard Strick, M.D. Clinical Professor of Dermatology at U.C.L.A.

• Presented his Ethocyn Studies’ data and results at the American Academy of Dermatology Medical Conference and many other publication venues

• Objective Clinical Trials’ Endpoint: Quantify patients’ elastin fiber content via 2mm skin biopsies. Biopsies’ then elastin preferentially stain (Verhoeff’s) and scanned for elastin contents using computer image analysis (p<0.001).

• Precise quantitative assessment of skin elastin fiber content of subjects before and after the bid, topical application of Ethocyn (at Baseline, 1, 2, 3, 4 and 6 months).

• Clinical Protocols were pre-approved (IND) by the United Stated FDA. Investigative Brochures submitted and approved by University Boards.
• Metabolizes in the body within 8 to 10 hours—therefore it should be applied twice daily

8 - 10 hours
U.C.L.A. Ethocyn Two Clinical Trials

- FDA protocols: Safety and Efficacy end-points

- Subjects: 40-77 years of age; males and females

- Two Studies at UCLA: 6 month; and 3 month Study Duration Protocols

- Baseline elastin: 9.2% (mean); 8.1% (mean)

- End elastin: 18.2% (mean); 21.3% (mean)

- Control Group (18-25 yrs old) baseline elastin: 15.6%

- Ethocyn Treated patients’ at 60 Day % skin’ elastin content = Control Group’ % skin elastin content
Clinical Trials’ Quantitative Skin Biopsies

• 2mm punch skin biopsies were taken from each patient at Baseline, 2, 3, 4, 6 months.

• Quantitative computer image analysis of biopsies were conducted to assure accuracy and statistically significant results (p<0.001)

• Independent staining, analysis and elastin % quantization conducted at recognized FDA approved histology laboratories

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Hundreds of double blind, punch biopsies conducted at independent University Medical Centers confirm Ethocyn increases 25-77 year old patients’ (M and F) skin important elastin fiber content to the youthful levels of 20 year old individuals.
Ethocyn Clinical Trials Biopsies’ stained and analyzed at Bioquant Image Analysis Corp, TN
Ethocyn Clinical Trials’ % Elastin Results

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**Ethocyn® Multicenter Clinical Trials Results**

- Multicenter University Clinical Trials have proven Ethocyn to be a safe, topical, target tissue, non steroidal anti androgen that, after 60 days of a bid regimen, increased, in both males and females aged 25 - 77 years, the important elastin fiber content to the quantity (15-18%) and quality of the Control Group (18-25 year olds).
- Different ethnicities (Caucasian, Hispanic, Asian, and other)
- No contraindications in any Protocols’ Safety End Points

- The first month elastic tissue results showed a greater than 50% increase over baseline (mean value of study data)
- After two months of treatment, the elastin increase was over 100% and all patients showing a response to the level of Control Group.
- Patients and physicians reported: “smoother, tighter, less wrinkled skin”
• 80% of people over 25 years have low elastin levels and need the Ethocyn

• 10% have good, firm skin and probably won’t need Ethocyn until 40-45 years of age.

• But after stopping use of Ethocyn, people returned to the genetically programmed elastin content of the skin.
## Ethocyn Clinical Trials’ Patients’ Safety Profiles

### Hematology:
- White Blood Cells
- Hemoglobin
- Blood Platelet Count
- Red Blood Cells

### Urinalysis:
- White Blood Cells
- Red Blood Cells

### Serum Chemistry:
- SGPT
- SGOT
- Total Protein
- Cholesterol
- Creatinine
- Potassium
- Sodium
- BUN
- Alkaline Phosphatase
- Triglycerides
- Total Bilirubin

### Hormone Assay:
- Total and Free Testosterone (TT and FT)
- Leutinizing Stimulating Hormone (LH)
- Follicle Stimulating Hormone (FSH)
- Estradiol

**Synopsis and Conclusion:** For all Subjects in all Ethocyn Clinical Trial Studies: All laboratory results both in Baseline and Final Visit were normal. During the analysis of the lab records, no significant change between Before Treatment and After Treatment was found. This was in line with the Ethocyn C\(^{14}\) Clinical Trial that confirmed its 100% metabolism by beta oxidation determinative to there being no parent Ethocyn compound entering systemic circulation.
Topical BID application of Ethocyn™

• Ethocyn bid topical application for 60 days: Subjects (aged 40-77 years; males and females) – elastin restored to youth levels (Control Group: ages 18-25).

• Mean elastic tissue level in treated individuals increased 100% (p< 0.001); some individuals had skin elastin % increase in 60 days as much as 500%.

• Every individual (male and female) subject showed improvement and had smoother, tighter and less wrinkled skin.

• American Academy of Dermatology Medical Conference, San Francisco, California
  • Richard Strick, M.D.
  • Diplomate of American Academy of Dermatology
  • Clinical Professor of Dermatology, UCLA School of Medicine

Jeffrey D. Hoefflin, M.D., F.A.C.S. - ETHOCYN
• I presented my Ethocyn Clinical Trial Study Data and Results at the American Society of Plastic Surgeons Medical Conference in Denver Colorado in September 2011

• Ethocyn Dose Response Studies at 15.0%, 10.0%, 5.0%, 0.05%, 0.25%, 0.025% (2009 – 2010)

• MTD: 0.025%

• Different Concentrations: Same Increase in Elastin % Results
Jeffrey D. Hoefflin, M.D., F.A.C.S.

**Ethocyn Clinical Trial’ Publication ASPS Medical Conference**

**Introduction:** Skin aging involves both intrinsic and non-induced changes. These changes can include skin thinning, altered pigmentation, decreased elastic production, less skin elasticity, cellular atrophy, and the development of hyaluronidase lesions. Ethocyn® (BCS Pharma Corp., Los Angeles, CA), is a nonsteroidal, antiandrogen compound which competitively inhibits dihydrotestosterone (DHT) receptors binding to cultured fibroblasts. The topical application of Ethocyn® (4-[6-ethoxy-7-pyridyl]-3-butyl-3,4-dihydro-2H-1-benzopyran-2-one) can reverse or improve the aging-related skin changes that are associated with low elastin levels, namely, visible skin wrinkling.

**Objectives:** The present study was designed to determine the efficacy of various concentrations of Ethocyn® in the treatment of the aging-related skin changes. The present study tested two concentrations, 0.2% and 0.25%, against control findings. A double blind, dosing study protocol was utilized. 20 patient subjects, aged 30-70, all in generally good health, were divided into two dosage groups. Each treatment group received Ethocyn® concentrations of either 0.2% and 0.25% Ethocyn® was applied to the right or left forearm twice daily for 30 and 60 days. 2 mm punch biopsies were obtained and processed.

**Methods:** Two skin punch biopsies were collected and stored in 10% neutral buffered formalin. Biopsy cures were embedded as paraffin blocks, sectioned, and stained using Verhoff-Van Gieson protocol for identifying elastin fibers. Quantitative analysis sections were analyzed independently by two blinded technicians. Analysis was performed using an image analysis system. Elastic content change was analyzed for statistically significant changes using a one-tailed, dependent variable t-test.

**Results:** Both the 0.2% and 0.25% Ethocyn® formulations demonstrated a statistically significant increase in elastic content compared to the control group (P < 0.05).

**Conclusion:** Ethocyn® (BCS Pharma Corp., Los Angeles, CA), is a nonsteroidal, antiandrogen compound which competitively inhibits dihydrotestosterone (DHT) receptors binding to cultured fibroblasts, resulting in a higher tissue concentration of elastin. The clinical implication is a smoother, tighter, and less wrinkled skin.
Fractionated Laser Resurfacing

- 15 years ago – Ultra pulse CO$_2$
- Long Recovery (4-6 weeks)
- Next generation of fractionated lasers
- Fraxel (CO$_2$), Pixel (Erbium)
- MTZ – “Microtreatment Zones”
- Less Downtime, Faster Recovery (3-4 days)
- Equivalent results
- Can be performed in office setting
Fractionated Laser Resurfacing

- Ablative Resurfacing (CO2 & 2.94 Erb:YAG, 10-200 microns)
- Superficial Fractional Ablative Resurfacing (CO2 & 2.94 Erb:YAG, 10-70 microns)
- Non-Ablative Fractional Resurfacing (600-1000 microns)
- Ablative Fractional Resurfacing (600-1000 microns)
Laser Resurfacing Study Protocols

- 2010 Laser Resurfacing Study
- Fraxel Fractionated CO₂ – Full Face Laser Skin Resurfacing
- Topical BID application of Ethocyn®
- Pre-treatment 45 days before laser, 7 days after laser
- Patient age range (aged 28-62 years)
- Every individual (male and female) showed improvement and had smoother, tighter and less wrinkled skin.
- Patients reported faster healing, faster epithelization
Facial Plastic Surgery

Surgery – possible FIRST step, not LAST step

Surgery – no effect upon skin texture

Ethocyn – compliment to surgical procedure. Recommend patients use Ethocyn 60 days prior to procedures so that skin has optimum elastin fiber quantity and quality.
Ethocyn Serums’ Also Contain Clinically Tested Antioxidant Ingredients Supplementary to Elastin Modulation
Ethocyn by chanTal Serums Formulated with Superior Collagen Boosting & Collagen Preservation Ingredients: Procol™
Ethocyn by chanTal Serums Formulated to Intervene in Skin Metabolism’s Oxidative Stress Cascade
Advantages of Topical Ethocyn Serums

- All serums formulated at university medical centers’ Clinical Trials safe and efficacious (MTD) dose
- Non-phototoxic ingredient
- Hypoallergenic and non-irritating as confirmed in Clinical Trials (AMA)
- Non-fragrance, anhydrous serums
- *In vitro* DNA Array gene expression profiles to assure comprehensive targeted skin anti-aging mechanisms of action
- Superior, clinically tested, proprietary elastin increasing, antioxidant, anti-inflammatory, collagen boosting (PROCOL) ingredients’ formulations
- Multi-functional formulations in a single serum simplify daily skin care regimen
Medical Directors at numerous USA University Dermatology Departments’ Interviews with the Press

“Ethocyn is the most effective cosmetic product available.”

Dr. Tina Alster
“I feel like Ethocyn is actually repairing my skin.”
“It’s the perfect little magic drop.”

“The Ethocyn Essence Vial’s are easy to use and gave me great results.”

“The tightness in my skin came back, I think everybody should know about Ethocyn.”

“Within two weeks I saw a big difference.”
“The Ethocyn changed my skin in a way I’ve never seen before.”

“I feel younger, I feel like I look younger.”

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Studies show this product works differently from others, and experts say it does work
- NBC (Channel 4) Television News Report

The compound actually restores elasticity to aging skin
- KTLA (Channel 5) Television News Report

What’s in this little bottle could turn back the hands of time
- KTLA (Channel 5) Television News Report

The fountain of youth in a bottle
- Hard Copy Investigative News Report

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Karen Philips, a working American wife, decided to test Ethocyn herself by using the product on only half of her face, twice a day, for 120 days.

The results of her “half face test” are seen in this picture.
Clinical Trials’ biopsy baseline values confirm that skin elastin decreases from 15-18% at 20 years of age to 8% (mean baseline elastin % for 40-77 year old Treatment Group) as we age.

Decreasing skin elastin fiber levels and fiber quality (elastosis) are associated with the signs (skin laxity and wrinkling) of skin aging.

BID, topical application of Ethocyn (0.025% dose) for 60 days restores elastin fiber levels and quality to that of young skin (18-25 year old) (p< 0.001).
Future Ethocyn research and medical is targeted to studies and publications that further elucidate Ethocyn as a:

UNIQUE, SAFE, and EFFICACIOUS ADJUNCT PRODUCT
to DERMATOLOGISTS' and PLASTIC SURGEONS' PROCEDURES.

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ADDITIONAL INFORMATION
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THE END

Thank You

MUCHAS GRACIAS