PROTOCOL NARRATIVE

University of California, Irvine
Institutional Review Board
Version: March 2006

HS#: 2006-5138
For IRB Office Use Only

Lead Researcher Name: Kristen M. Cesario-Kelly, MD

Title: Evaluation of the Candela 1064nm Nd:YAG laser for Treatment of Cellulite and Tightening of Skin

Important: Please read the **instructions** before completing this protocol narrative.

NON-TECHNICAL SUMMARY

Provide a non-technical summary of the proposed research project that can be understood by IRB members with varied research backgrounds, non-scientists and community members. The summary should include a brief statement of the purpose of the research and related theory/data supporting the intent of the study and a brief description of the procedure(s) involving human subjects. *This summary should not exceed more than ½ a page.*

At present, there are no proven effective means for managing cellulite. There are two devices that have received FDA clearance for "temporary reduction in the appearance of cellulite". One is a mechanical massage machine (Endermologie, LPG, Fort Lauderdale, FL) under 510(k) K990445 and the other is the Velasmooth (Syneron Medical Ltd. Israel) under 510(k) K050397.

Non-ablative laser and light treatments are becoming an increasingly popular procedure. Non-ablative treatments have been shown to improve rhytides, pilosebaceous changes, pigmentary skin alterations and vascular lesions including facial telangiectasias and diffuse redness and are attractive to physicians and subjects because of minimal or no healing time, reducing subject inconvenience and risk.

It is our hypothesis that creating deep fibrosis in the skin will improve the appearance of cellulite. The laser used in this study will allow deep tissue heating, while using a cooling device to protect the outer layers from damage.

SECTION 1: PURPOSE AND BACKGROUND OF THE RESEARCH

1. Describe the **purpose of the research** project and state the overall objectives, specific aims, hypotheses (or research question) and rationale for performing the study.
2. Provide the **relevant background information** on the aims/hypotheses (or research question) to be tested and the procedures/products/techniques under investigation.
3. Include a description of the predictor and outcome variables, as appropriate.
4. Include a critical evaluation of existing knowledge, and specifically identify the information gaps that the project intends to address.
5. Describe previous research with animals and/or humans that provides a basis for the proposed research. Include references/citations, as applicable.

There are numerous therapies that have been advertised for the treatment of cellulite, but there is little scientific evidence that any of these treatments are beneficial. In fact, much of this evidence is subjective or based upon patient self-assessment. The objective of this investigation is to evaluate safety and effectiveness of a non-ablative treatment for cellulite in conjunction with skin tightening by increasing dermatofibrosis of the reticular dermis using the Candela GentleYAG laser.

Study outcome will be assessed as follows:

A panel of three independent, blinded individuals experienced in dermatological cosmetic therapy will determine percent improvement in cellulite appearance by comparing photographs taken at the pre-treatment visit to those from the 1, 3 and 6 month follow-up visits. Each evaluator will be ask to compare the treated and non-treated areas on a blinded basis and then will rate improvement on the scale 0 to 4, as described below.

% Improvement	Description	Score
0%	No improvement	0
1-25%	Slight improvement	1
26-50%	Moderate improvement	2
51-75%	Significant improvement	3
76-100%	Complete improvement	4

The difference scores between the treated and the untreated sides will be used to measure treatment efficacy.

The investigator's assessments during follow-up visits will be tabulated and analyzed with basic descriptive statistical methods.

Ultrasound analysis, skin elasticity measurements and non-invasive optical measurements may also be performed prior to treatment and at the 1, 3 and 6 month follow-up visits to determine any changes in skin thickness.

Safety will be assessed by clinical evaluation of purpura, edema, erythema, hyperpigmentation, hypopigmentation, blistering and scarring. Assessments will be performed by the investigator using the following scale:

0 = absence
1 = mild
2 = moderate
3 = severe

SECTION 2: ROLES AND EXPERTISE OF THE STUDY TEAM

List all study team members below.

1. Describe their **specific role and responsibility** on the study in the text box provided.
2. **Faculty Sponsors** - list as Co-Researchers and describe their role on the project; include oversight responsibilities for the research study.
3. Explain who will have access to subject identifiable data.
4. Indicate who will be involved in recruitment, informed consent, research procedures/interventions, and analysis of data.
5. Provide a description of their **qualifications, level of training and expertise**. Include information about relevant licenses/medical privileges, as applicable.

Lead Researcher:

Kristen Kelly, MD is an associate clinical professor in the department of dermatology. Dr. Kelly is a board certified dermatologist who completed additional training in light based therapeutics. Dr. Kelly has extensive experience with clinical laser treatments. She will be responsible for conducting this study in collaboration with Drs. Zachary and Tournas.

Co-Researchers:

Christopher B. Zachary, FRCP is Professor and Chair of Dermatology. He trained in Internal Medicine and Dermatology in London and is certified by the Royal College of Physicians, London. He has been involved in laser surgery and laser studies for 20 years, and is the 2006 Program Director for the American Society for Laser Medicine and Surgery. He will be involved in consenting, treating and evaluating patients.

Joshua Tournas, MD is a Resident in the Department of Dermatology. He will assist Dr. Zachary and Dr. Kelly with evaluation and care of research subjects for this trial. Dr. Tournas will assist study personnel with completion of study documentation and review of subject charts. Dr. Tournas is licensed by the California State Medical Board and will be involved in consenting and evaluating the subjects for this study.

Anne Truitt M.D. is a Resident in the Department of Dermatology. She will assist Dr. Kelly and Dr. Zachary with evaluation and care of research subjects for this trial. Dr. Truitt will assist study personnel with IRB paperwork and completion of study documentation along with review of subject charts. Dr Truitt is licensed by the California State Medical Board and will be involved in consenting and evaluating the subjects for this study.

Laila Elkeeb M.D. is a Research Fellow in the Department of Dermatology. She will assist with evaluation and care of research subjects for this trial. Dr. Elkeeb will assist study personnel with IRB paperwork and completion of study documentation along with review of subject charts. Dr Elkeeb is licensed by the California State Medical Board and will be involved in consenting and evaluating the subjects for this study. She will have access to the subject identifiable data.

Arisa Ortiz M.D. is a Research Fellow in the Department of Dermatology. She will assist with evaluation

and care of research subjects for this trial. Dr. Ortiz will assist study personnel with IRB paperwork and completion of study documentation along with review of subject charts. Dr Ortiz is licensed by the California State Medical Board and will be involved in consenting and evaluating the subjects for this study. She will have access to the subject identifiable data.

Anne Marie Tremaine M.D. is a Research Fellow in the Department of Dermatology. She will assist with evaluation and care of research subjects for this trial. Dr. Tremaine will assist study personnel with IRB paperwork and completion of study documentation along with review of subject charts. Dr Tremaine is licensed by the California State Medical Board and will be involved in consenting and evaluating the subjects for this study. She will have access to the subject identifiable data.

Research Personnel:
Patty Summerville is an Administrative Assistant for Dermatology Research. She will also assist the investigators in the care of the research subjects and the collection of data. She will be responsible for the accuracy of data reported to the sponsor by our site and will coordinate subject-related clinical services.

Montana Compton, R.N. is a research coordinator at Beckman Laser Institute and has many years of experience in both nursing and research conduct. She will assist the investigators in the care of the research subjects and the collection of data.

SECTION 3: RESEARCH METHODOLOGY/STUDY PROCEDURES

1. Provide a detailed description of **each** phase of the study (e.g., pilot, screening, intervention, and follow-up).
2. Include the sequence and timing of **all study procedures** to be performed.
3. When applicable, provide information about the **measures and outcome variables** and the **statistical methods of analysis**.

Additional information about completing this section is included in the Protocol Narrative instructions.

This is an open label trial. Treatment will be conducted on either the left or right knee, thigh, arm, or ½ the abdomen, depending upon which area has the most cellulite or skin laxity. The contra-lateral side will not be treated and will serve as a control. A comparison of baseline photographs (prior to treatment) to photographs taken 1, 3 and 6 months after the completion of treatment will be conducted. Photographic equipment and the protocol for photography will be consistent at each visit. Ultrasound may be taken at baseline and at the follow-up visits to evaluate flatness of cellulite and dermal fibrosis or enlargement of the reticular dermis. Non-invasive light measurements may also be taken at baseline and follow-up visits. These do not hurt or pose a risk to the subjects and are similar to shining a flashlight on the skin and measuring the light. The area treated will be measured with a tape measure, weight/height will be recorded and the Body Mass Index (BMI) will be calculated at baseline and follow-up visits. In addition, skin elasticity may be measured at the treatment areas at baseline and follow-up visits. The photographs, ultrasound and measurements will be taken using consistent procedures at each visit by viewing the baseline photograph and using landmarks such as freckles and birthmarks.

The laser system to be used in this clinical study, Candela GentleYAG, a 1064 nm Nd:YAG laser is a commercially available laser and has been cleared by FDA under K022923, K022951, K023193 and K033172.

The Candela GentleYAG is cleared for removal of unwanted hair, for stable long term or permanent hair reduction and for treatment of pseudofolliculitis barbae, and is indicated on all skin types Fitzpatrick I-VI including tanned skin. The GentleYAG is cleared for treatment of vascular lesions such as port wine stain birthmarks, telangiectasia, rosacea, and leg and spider veins, and is cleared for treatment of benign pigmented lesions such as lentigos (age spots), café au lait birthmarks, and tattoos. The laser is also indicated for treatment of red pigmentation in scars with vascularity, and for treatment of wrinkles.

The Candela DCD produces a brief, timed spray of cryogenic fluid that evaporates from the skin surface and cools the epidermis, prior to each laser pulse. The DCD has been cleared by the FDA for minimizing pain and cooling the epidermis during laser treatment (K953412). The DCD is part of the Candela GentleYAG laser system.

Treatment Procedure

The following table provides a summary of the required study visits, the procedures and assessments to be performed at each visit.

Assessments/ Procedures	Pre-Tx	Tx 1	Follow-up 1 month	Follow-up 3 months
Informed Consent	X			
History	X			
Inclusion/ Exclusion Criteria	X			
Subject No. Assignment Randomization	X			
Photography	X	X	X	X
Ultrasound/skin elasticity assessments (optional)	X	X	X	X
Non-invasive light measurements	X	X	X	X
Measurement (average of 3) / Weight	X		X	X
Laser treatments		X		
Assessments of side effects		X	X	X
Post-treatment care instructions		X		
Assessment			X	X
Subject Satisfaction survey			X	X

Pre-Treatment Procedure

1. Subjects will be recruited at the investigational site.
2. Prior to any screening assessments, informed consent will be obtained. When the subject fully understands the possible benefits and risks of the study, the subject will be asked to sign and date the informed consent form. The investigator will then sign and date the form. The subject will be given a copy of the completed consent form.
3. A detailed medical history will be obtained.
4. The subject will undergo a standard exam to determine if they meet the study criteria.
5. Skin type will be recorded using the Fitzpatrick classification of phototype.
6. Tape measurements of the treated area, height, and weight will be recorded.
7. The presence and severity of cellulite will be noted using the following 2 methods:

Nurnberger-Muller Scale :

Stage 0: No dimpling. Pinch test "folds and furrows", no mattress like appearance.
Stage 1: No dimpling. Pinch test reveals mattress like appearance.
Stage 2: Dimpling spontaneously standing.

Stage 3: Dimpling spontaneously standing and lying down.

Texture Scale:

Hard or Solid: Pinch test "firm folds and furrows" mattress-like appearance. Adherent to deep planes. Not modified with lying versus standing position.

Soft or Flaccid: Pinch test "spongy and floating folds and furrows", mattress-like appearance. No adherence to deep planes. Not painful, flaccid. "Orange peel skin" appears spontaneously.

Edematous: Doughy consistency. Dimpling Spontaneously. Pain and cramps. Signs of venous and lymphatic insufficiency "legs in boot/column".

8. The pre-treatment photographs will be obtained using the Canfield Monostand device. This device will keep the ambient lighting, background, camera settings exactly the same for each scheduled photograph during the study. Photographs will be of the treated and control areas.

9. Optional: Imaging of skin via a non-invasive high frequency ultrasound imaging device may be performed

10. Optional: Measurement of skin elasticity using non-invasive instrumentation may be performed.

11. Just prior to treatment, the subjects will be assigned a study subject number. These numbers will be assigned consecutively.

Laser Treatment:

One laser treatment will be performed, and the procedure will be as follows:

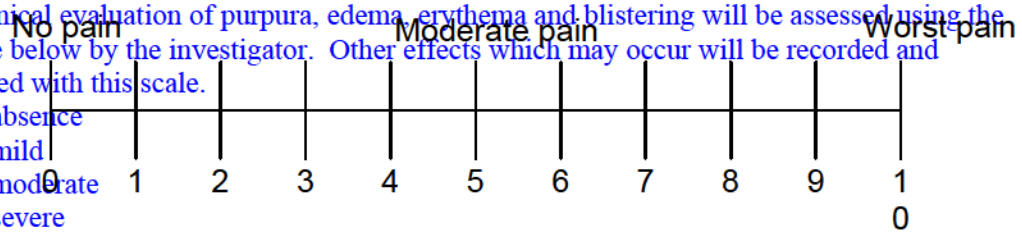
1. The treatment area will be photographed prior to the treatment. Emphasis will be placed on keeping the ambient lighting, background, camera settings exactly the same for each scheduled photograph during the study.
2. Tape measurement and weight will be recorded.
3. The treatment area will be comprised of the arm (circumferential upper arm area), knee (approximately 10cm circumferentially around the patellar bone), entire thigh (from the upper lateral areas of the thighs inner to outer area excluding hips moving downwards until just above the knee), or abdomen (from the costal margin to just superior to the pelvic bone).
4. Topical anesthetic may be applied to the skin according to the manufacturer's instructions if the subject requires it or if the doctors feels the subject might not tolerate the treatment with out the use of topical anesthetic
5. Starting with the selected diameter spot size handpiece, test spots may be conducted with the laser at a low fluence until the optimum fluence is achieved (prior to intolerable discomfort or a reaction of mild redness or edema is visible).
6. Laser treatment will include up to six (6) consecutive passes of the laser over the treatment area. The treatment parameters are noted in the following table.

Parameter	Parameter Value Range
Spot size diameter:	10-22 mm
Wavelength	1064 nm
Fluence:	10-50 J/cm^2
Laser pulse duration:	20-50 ms
Rep. rate:	Up to 2 Hz
DCD cooling	0-50ms

Immediate Post-Treatment Procedure

1. Immediately after treatment the subject will be asked to rate the pain on a 0-10 (none to worst).

2. Clinical evaluation of purpura, edema, erythema and blistering will be assessed using the scale below by the investigator. Other effects which may occur will be recorded and graded with this scale.
0 = absence
1 = mild
2 = moderate
3 = severe



3. The subject will be instructed on post-treatment care.

Long Term Follow-Up Procedure

1. Subjects will return to the study site for a one (1), three (3) and (6) month follow-up visits after the laser treatment.

2. The treatment areas will be photographed.

3. Tape measurements and weight will be recorded.

4. Ultrasound and skin elasticity measurements will be done if they were done at baseline.

5. A clinical evaluation of purpura, edema, erythema, hyperpigmentation, hypopigmentation, blistering and scarring will be assessed by the investigator using the following scale:
   0 = absence
   1 = mild
   2 = moderate
   3 = severe

6. At the follow-ups the subjects will be asked to evaluate their satisfaction with the treatments. They will be asked to complete the questions below. The first question will ask the subject to rate each treatment procedure using the following scale:
   1 = Not Satisfied
   2 = Little Satisfaction
   3 = Somewhat Satisfied
   4 = Satisfied
   5 = Very Satisfied

7. The subject will also be asked to rate the overall improvement in the appearance of their treated skin using the following scale:
   1 = No improvement
   2 = Little improvement
   3 = Moderate improvement
   4 = Significant improvement
   5 = Complete improvement

8. The subject will have the option to receive an additional treatment on the control side if the treatment results in asymmetric improvement of cellulite. They may have this option starting at the final follow-up.

SECTION 4: SUBJECTS (PERSONS/CHARTS/RECORDS/SPECIMENS)

A. Number of Subjects (Charts/Records/Specimens)

1. Indicate the **maximum number of subjects to be consented** on this UCI protocol. • Include projected screen failures and early withdrawals. • For Mail/Internet surveys include the number of people directly solicited. • If the study involves use of existing charts, records, specimens, specify the maximum number that will be reviewed to compile the data or the sample population necessary to address the research question.
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2. Of the maximum number of subjects listed above, indicate the **target sample size** for the study. • The target sample size is the number of subjects expected to complete the study or the number necessary to address the research question. • If the study only involves use of existing records, charts, specimens, specify the target number needed to address the research question.
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3. Explain **how the study sample size was determined** (e.g., power analysis; review of related literature).
This is a pilot trial; therefore there is no basis for the sample size needed to determine a significant difference.
4. For **multi-center research**, indicate the overall sample size for the entire project (across all sites).
[x] Not applicable - This study is not a multi-center study.

B. Inclusion and Exclusion Criteria

1. Describe the **characteristics** of the proposed subject population (age, gender, health status, language, etc.)

Male or female ≥ 18 years of age.

2. Provide the **inclusion and/or exclusion criteria** for the proposed subject population, as applicable.

[ ] Not applicable – This is not a clinical investigation and/or characteristics of the population sufficiently describe the proposed subject population.

Inclusion Criteria

1. Male or female ≥ 18 years of age
2. Cellulite on the arm, knee, thigh or abdomen at stage 2 - 3 of cellulite per Nurnberger-Muller scale.
3. Subject is not overweight per B.M.I. criteria (B.M.I < 27).
4. Subject has Fitzpatrick skin phototype I-IV.
5. Subject is willing to participate in study and adhere to follow-up schedule.
6. Subject has signed the Informed Consent Form.

Exclusion Criteria

1. Subjects that have cellulite at stage 0 – 1 per Nurnberger-Muller Scale (the doctor will determine this)
2. Subjects that have had liposuction or other surgical procedures (including Mesotherapy) to remove fat on the proposed treatment area during the past year.
3. Subject has severe cellulite with referral to pain and/or tenderness on the area to be treated (Texture Scale: edematous).
4. Subject is overweight (BMI > 27).
5. Subject has known photosensitivity or history of ingesting medications known to induce. photosensitivity in the previous 3 months.
6. Subject has a personal or family history of keloid formation or of scarring.
7. Subject is pregnant or lactating.
8. Subject has a history of uncontrolled diabetes, and/or who requires medication which may interfere with the study.
9. Subjects with a known history of neuropathy.
10. Subjects with a known history of a coagulopathy.
11. Subject is unable or unwilling to comply with the study requirements.
12. Subject has a pacemaker or metallic implants.
13. Subject has Fitzpatrick skin type V and VI.
14. Subject is mentally incompetent or a prisoner.

3. If inclusion/exclusion is based on age, gender, pregnancy/childbearing potential, or race/ethnicity, **provide a scientific rationale**.
Pregnant women are more prone to hyperpigmentation of the skin in response to laser treatments of all types and thus, they will be excluded. We will enroll Fitzpatrick types I-III because although the 1064nm laser is indicated for all skin types, previous studies using the 1064 nm laser have noted that skin types IV and V experience more pain during treatment and are significantly more likely to develop skin dyspigmentation.

SECTION 5: RECRUITMENT METHODS AND PROCESS

A. Recruitment Methods

Please check **all** applicable recruitment methods that apply to the study. Place an "**X**" in the bracket **[ ]** next to the recruitment method.
[ ] This study involves no direct contact with subjects (i.e., use of existing records, charts, specimens) • Skip to Section 6.
[x] UCI IRB approved advertisements, flyers, notices, and/or media will be used to recruit subjects. • Passive Recruitment - Potential subjects initiate contact with the study team. • Complete Question 5B - Explain where recruitment materials will be posted.
[ ] The study team will recruit potential subjects who are unknown to them (e.g., snowball sampling, use of social networks, direct approach in public situations, random digit dialing, etc.) • Active Recruitment – Researchers contact potential subjects. • Complete Question 5B.
[X] The UCIMC Clinical Trials web page will be used. • Passive Recruitment - Potential subjects initiate contact with the study team. • Skip to Section 6.
[ ] The UCI Social Sciences human subject pool will be used. • Passive Recruitment - Potential subjects initiate contact with the study team. • Skip to Section 6.
[x] Study team members will contact potential subjects who have provided permission to be

contacted for participation in future research studies.
- Active Recruitment – Researchers contact potential subjects.
- Complete Question 5B – Explain when and how these individuals granted permission for future contact; provide the IRB protocol numbers, if applicable.

[x] Study team members will approach their own patients, students, employees for participation in the study.
- Active Recruitment – Researchers contact potential subjects.
- Complete Question 5B.

[ ] Study team members will send UCI IRB approved recruitment materials (e.g., recruitment flyer, introductory letter) to colleagues asking for referral of eligible participants.*
- Passive Recruitment - Potential subjects initiate contact with the study team or
- Active Recruitment – Colleagues get permission from interested individuals to release contact information to researchers. Researchers contact potential subjects.
- For Active Recruitment, complete Question 5B.

**Additional requirements for using this recruitment method are included in the Protocol Narrative instructions.*

[ ] Study team members will provide their colleagues with a UCI IRB approved introductory letter. The letter will be signed by the treating physician and sent to his/her patients to inform them about how to contact study team members.
- Passive Recruitment - Potential subjects initiate contact with the study team.
- The IRB approved letter must be sent by the treating physician.
- The study team does not have access to patient names and addresses for mailing.
- Skip to Section 6.

[ ] UCI study team members will screen UCIMC medical records to determine subject eligibility and approach patients directly about study participation.*
- Active Recruitment – Researchers contact potential subjects.
- Complete Appendix T to request a partial waiver of HIPAA Authorization.
- Complete Question 5B.

**Additional requirements for using this recruitment method are included in the Protocol Narrative instructions.*

[ ] Other Methods: <indicate the recruitment method(s) here>
- Complete Question 5B, as applicable.

B. Recruitment Process

1. Based on the boxes checked above, describe and provide **details of the recruitment process** (i.e. when, where, by whom and how potential subjects will be approached).
2. If active recruitment methods will be used, explain how the individual's privacy will be protected.

Subjects interested in participation in the study will contact the clinical study team. During this first study contact they will be informed regarding the goals of the study, history of the investigational device, inclusion/exclusion criteria, study procedures, potential benefits, risks and duration of the study. No treatment or data collection will be obtained before a subject is enrolled. Subjects will provide consent prior to providing HIPAA-regulated Protected Health Information and enrolled after informed consent materials, including the specifics of research participation, the potential risks and benefits of participation, and confidentiality concerns, are presented.
Subjects who believe they meet the exclusion and inclusion criteria and remain interested in the study will be invited to come in for their screening visit. During the screening visit, the investigator will ask the subject questions in order to determine if the inclusion and exclusion criteria are met. Following the investigator's determination that the inclusion and exclusion criteria are met, the subject will be invited to participate in the study. No data about the subject will be recorded until informed consent and HIPPA Authorization have been obtained.
This study will be posted on clinicaltrials.gov

SECTION 6: INFORMED CONSENT PROCESS

Describe the specific steps for obtaining informed consent.
1. Include information about **when and where** consent will take place and the **length of time** subjects are given to decide whether they wish to participate.
2. If study team members will approach their own patients, students, or employees for participation in the study, explain what precautions will be taken to **minimize potential undue influence** or coercion, and how compromised objectivity will be avoided.

Check all that apply:

[x] Written (signed) informed consent will be obtained from subjects. Explain below.

[ ] Requesting a waiver of written (signed) informed consent. Explain below and complete Appendix P.

[ ] Requesting a waiver of informed consent (no consent). Complete Appendix O. Skip to Section 7.

Subjects who believe they meet the exclusion and inclusion criteria and remain interested in the study will be invited to come in for their screening visit. During the screening visit, the investigator will ask the subject questions in order to determine if the inclusion and exclusion criteria are met. Following the investigator's determination that the inclusion and exclusion criteria are met, the subject will be invited to participate in the study.
The Informed Consent document will be reviewed with the subject and signed if the subject understands and accepts the document. The estimated time for the review and the explanation of the consent form is about 30 minutes. The subject will be enrolled in the study after signing the informed consent. After signing the consent, the subject is enrolled.

3. **Non-English Speaking Participants:** In order to consent subjects who are unable to read and speak English, the English version of the consent form must be translated into appropriate languages once IRB approval is granted.

Check all that apply:

[ ] Not applicable - Only individuals who can read and speak English are eligible for this study.

[x] The English version of the consent form will be translated into appropriate languages for non-English speaking subjects once IRB approval is granted. **Note:** The IRB must stamp the translated consent forms before they are used. An interpreter will be involved in the consenting process.

[ ] Requesting a short form consent process. Complete Appendix Q.

SECTION 7: RISK ASSESSMENT AND POSSIBLE BENEFITS

Review of the instructions for this section is strongly recommended.

A. Risk Assessment

Place an "**X**" in the bracket **[ ]** next to the level of review (based upon the investigator's risk assessment).

[X] This study requires **full committee** review.

[ ] This study qualifies for **exempt or expedited review** status. List the applicable exempt or expedited category(ies) and provide justification for the level of review and for the category(ies) chosen in the space below:

<Type here>

B. Risks and Discomforts

1. Describe the **risks/potential discomforts** (e.g., physical, psychological, social, economic) associated with **each** intervention or research procedure.
2. Estimate the probability (e.g., chance or likelihood of occurrence) that a given harm may occur and its severity (e.g., mild, moderate, severe).

The possible risks and/or discomforts associated with the procedures described in this study include pain, purpura (bruising), edema, papule formation, erythema (redness), hyperpigmentation (darkening of skin), hypopigmentation (lightening of skin), blistering, crusting and scarring. Changes in the skin from any of the aforementioned risks may be temporary or permanent. A lesser possibility exists of pinpoint bleeding and infection associated with a wound from blistering or bleeding in the treatment area.

3. Discuss what measures have been taken and/or will be taken to **prevent and minimize** any risks/ potential discomforts.

The PI and colleagues have extensive experience in performance of laser treatments which will help to minimize risk. If hyperpigmentation occurs, bleaching cream can be used to minimize the effect.

4. For **Full Committee protocols**, state whether any study procedures may involve risks to the subject (or embryo or fetus, if the subject is or may become pregnant) that are currently unforeseeable.

[ ] Not applicable - This study qualifies for Exempt or Expedited review.

It is possible that the laser treatment could involve risks that are currently unforeseeable. Because laser light penetrates only a few millimeters into the skin, risk to a fetus is unlikely. However, because the risk to a fetus is unknown, pregnant women will be excluded.

C. Potential Benefits

1. Discuss the benefits that may accrue **directly to the subjects**. *Note: Compensation is not a benefit. Do not include it in this section.*

[ ] There is no direct benefit anticipated for the subjects.

The possible benefits from the procedures described in this study include improvement in the appearance of cellulite and/or tightening of thigh skin.

2. Describe the **potential societal/scientific benefit(s)** that may be expected from this study.

This study may allow us to provide better treatments for cellulite in the future.

D. Risk/Benefit Assessment

For **Expedited and Full Committee protocols**, explain why the study risks are reasonable in relation to the **potential benefits** to subjects and society.

[ ] Not applicable - This study qualifies for Exempt review; there is virtually no risk/potential discomfort to the subjects.

Nd:YAG laser treatment has been shown to be a safe and effective treatment for many conditions on various body locations, including laser-based hair removal in the thigh area. As such, the risk of injury is relatively low and there is the potential benefit of improvement in the appearance of cellulite.

SECTION 8: ALTERNATIVES TO PARTICIPATION

Describe appropriate **alternative procedures or courses of treatment**, if any, which might be advantageous to the subject or indicate that the only alternative is non-participation.

[ ] No alternatives exist. The only alternative to subjects is not to participate in the study.

Alternative procedures or courses of treatment include other laser and radiofrequency treatments, manual massage-type treatments, injections, or no treatment at all.

SECTION 9: ADVERSE EVENT REPORTING/MANAGEMENT AND COMPENSATION FOR INJURY

A. Adverse Events and Unanticipated Problems

1. Indicate that you are familiar with UCI's Adverse Events/Unanticipated Problems reporting policy and procedures. See http://www.rgs.uci.edu/ora/rp/hrpp/adverseexperiences.htm for details.

[ ] Not applicable - This study involves no subject contact (i.e., use of existing records, charts, specimens).

[x] The researchers will comply with UCI's Adverse Events/Unanticipated Problems reporting policy and procedures.

2. Explain how the research team will respond to **adverse events and unanticipated problems** that may occur during the study or after completion of the study.

[ ] Not applicable - This study involves no subject contact (i.e., use of existing records, charts, specimens).

[ ] Not applicable - This study qualifies for Exempt review; there is virtually no risk to the subjects.

Patients will be monitored for the occurrence of both anticipated and unanticipated adverse events. Should an event occur, treatment of the condition will be paramount, and there will be continued risk/benefit analysis as to whether treatments should be continued.

Adverse events will be reported per the UCI-IRB Adverse Event and Unanticipated Problems reporting policy.

B. Compensation for Injury

For **Full Committee protocols**, explain how costs of treatment for research related injury will

be covered.

[ ] Not applicable - This study qualifies for Exempt or Expedited review.

[x] Subjects who are injured as a direct result of their participation in this study will be provided reasonable and necessary medical care to treat the injury at no cost to them or their insurer/third party payer. The University of California does not routinely provide any other form of compensation for injury.

[ ] Other: <Type here>

SECTION 10: PARTICIPANT COSTS

Identify and estimate those costs to be borne by subjects or their insurers, including costs of standard medical interventions or procedures.

[ ] Not applicable - This study involves no subject contact (i.e., use of existing records, charts, specimens).

[X] There are no costs to subjects/insurers.

<Type here>

SECTION 11: PARTICIPANT COMPENSATION AND REIMBURSEMENT

If subjects will be compensated for their participation, provide detailed information about the amount and the method/terms of payment (e.g., money; check; extra credit; gift certificate). In addition:

1. Describe the schedule of compensation (e.g., at end of study; after each session/visit).
2. Compensation should be offered on a prorated basis.
3. Specify whether subjects will be reimbursed for out-of pocket expenses. If so, describe any requirements for reimbursement (e.g., receipt).

[ ] Not applicable - This study involves no subject contact (i.e., use of existing records, charts, specimens).

[X] No compensation will be provided to subjects.

[ ] No reimbursement will be provided to subjects.

<Type here>

SECTION 12: CONFIDENTIALITY OF RESEARCH DATA

1. Explain how data will be **collected and recorded**.

Data Collection/Method of Recording (check all that apply):

[X] Paper documents/records
[ ] Computer files/database
[ ] Audio recording
[ ] Video recording
[X] Photographs
[ ] Biological specimens
[ ] Other(s) (specify): <Type here>

2. Indicate whether **subject identifiers** will be linked (directly or indirectly via a code) to the research data.

[ ] No Subject Identifiers will be collected
(i.e., the data are anonymous; no one, including the study team, can link subjects to their data)

[X] Indirect link to Subject Identifiers
(i.e., a code will be assigned to the data and a key linking the code to the identity of the subjects exists)

[ ] Direct link - Subject Identifiers will be maintained with data
(i.e., personal or private information about the subjects are associated with the data)

List the direct identifiers here: <Type here>

[ ] Other (explain here): <Type here>

3. Indicate **how data will be stored, secured** including paper records, electronic files, audio/video tapes, specimens, etc.
NOTE: *The more sensitive the study data, the more sophisticated the methods should be to maintain confidentiality.*

Electronic Data (check all that apply):
[ ] Anonymous or de-identified data only
[ ] Coded data with the code key kept in separate location
[ ] Encryption or password protection software
[X] Secure network server
[ ] Stand alone desktop computer (not connected to server/internet)
[ ] Other (specify here): <Type here>

Hardcopy Data, Recordings and Specimens (check all that apply):
[ ] Anonymous or de-identified only
[X] Locked file cabinet or locked room at UCI/UCIMC

[ ] Locked lab/refrigerator/freezer at UCI/UCIMC
[ ] Other (specify here): <Type here>

4. **Data on portable devices:**
   - Describe the portable device(s) to be used (e.g. laptop, PDA).
   - Specify whether subject identifiable data will be stored on the device. If so, **justify why it is necessary** to store subject identifiers on the device.

Note: only the "minimum data necessary" should be stored on portable devices.

[X] Not applicable – No study data will be maintained on portable devices.

<Type here>

5. Specify who will have **access to subject identifiable data and records**.

[ ] Not applicable – No subject identifiers will be collected.

[X] The research team, authorized UCI personnel, the study sponsor (if applicable), and regulatory entities such as the Food and Drug Administration (FDA) and the Office of Human Research Protections (OHRP), may have access to study records to protect subject safety and welfare. Any study data that identifies the subjects will not be voluntarily released or disclosed without the subjects' separate consent, except as specifically required by law. Publications and/or presentations that result from this study will not include subject identifiable information.

[ ] Other: <Type here>

6. Explain how long the research data (hard copy documents, computer files, recordings) will be **retained** once the research has been completed (e.g., destroyed upon study completion; stored for future research; retained for a specified timeframe, etc.)

Note: If your study involves the creation of a research database, specimen repository, or you plan to share data or specimens for secondary uses or analyses, Appendix M is required.

The researchers intend to keep the research data for approximately 5 years.

7. **Certificates of Confidentiality:**
   - Specify whether a Certificate of Confidentiality (COC) has been requested from the NIH.
   - If yes, explain in what situations personally identifiable information protected by a COC will be disclosed by the UCI study team.

Note: A copy of the COC should accompany the IRB application or be provided to the IRB upon receipt.

[X] Not applicable – No COC has been requested for this study.

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