Title:	Assessing Parental Photographs of Skin Disease and the Concordance of a Virtual Diagnosis: Can 3 Simple Instructions Improve the Photograph Quality?		
Short Title	Photograph Quality Rating Scale Study: The “PQRS” Study		
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ABBREVIATIONS AND DEFINITIONS OF TERMS

App	Mobile Software Application
CHOP	The Children's Hospital of Philadelphia
LC	Leslie Castelo-Soccio, MD, PhD
mHealth	Mobile Health
MP	Marissa Perman, MD
MyChart	The MyCHOP mHealth mobile application
PD	Pediatric Dermatology
PM	Patrick McMahon, MD

ABSTRACT

Context: Technology has advanced rapidly to allow photographs to be transmitted by email, texting and mobile phone application with increasing speed and ease. More than ever before, patients are able to submit photographs to medical providers in secure ways in an attempt to communicate and receive medical advice and, in some cases, treatment. In pediatric dermatology at CHOP, parents are able to send photographs of their child's skin condition via email or MyCHOP (a mobile Health app).

Objectives: 1) Assess the quality of parental photographs obtained on a mobile device, 2) Assess accuracy of virtual diagnosis provided based on photographs and 3) Validate a 3-step instruction sheet provided to parents prior to taking photographs on a mobile device.

Study Design: This is prospective cohort study.

Setting/Participants: This is a single site study that will include new patients cared for in the pediatric dermatology clinic at The Children's Hospital of Philadelphia. All patients and parents enrolled will be English speaking.

Study Interventions and Measures: When the patient is in a private exam room in the clinic, parents or legal guardians of all new patients who have been enrolled in MyCHOP (or are willing to enroll) and have a mobile device capable of downloading the mHealth app (MyChart) will be able to participate in this study. Consent will be obtained in the private examination room. Participants will complete a survey and, while in the clinic exam rooms, take photographs of the patient's skin condition using the MyCHOP mHealth app (MyChart). Half of the participant will be provided with an instruction sheet including 3 steps to improve the photograph image quality. Patients will undergo a typical in-person consultation by Dr. Marissa Perman (MP) or Dr. Leslie Castelo-Soccio (LC), as scheduled. Image quality of all photographs will be evaluated and graded as detailed below. The pediatric dermatologist, Patrick McMahon (PM), who evaluates the images and survey answers virtually via EPIC electronic medical record, will be different (blinded) than the provider who examined the patient live in the office (MP or LC). Diagnoses will be compared to determine diagnostic concordance.

1 BACKGROUND INFORMATION AND RATIONALE

1.1 Introduction

Pediatric dermatology (PD) is an image-based specialty that lends itself to evaluation by electronically transmitted photographs. For decades, physicians have been using photography to document patient's skin conditions, track clinical progress and for medical publications. Today, patients and their parents are able to communicate with medical providers by telephone, email and through mHealth apps. For several years at The Children's Hospital of Philadelphia, parents of established patients have been able to submit photographs of patient's skin conditions to pediatric dermatologists for virtual evaluation. Photographs are of variable quality depending on many factors including lighting available, the devices used and whether the patient is able to hold still. Overall, as cameras on mobile devices have improved, more photographs are being submitted and the quality of these photographs has improved. Instructions are not provided to the caretakers prior to taking the photographs. Depending on the quality, the provider is sometimes able to provide advice and, in some cases, treatment to the patients. This study is an attempt to evaluate the quality of parental photography as well as the concordance between diagnoses provided by in-person patient examination and virtual photograph examination. A simple 3-step instructions sheet (see attached) on how best to take photographs with mobile devices will also be provided to half of the participants in an attempt to validate its utility. If shown to improve photographic image quality, this instruction sheet can be provided to any parent wishing to send a photograph to a provider at The Children's Hospital of Philadelphia. Ultimately, improving image quality may improve efficiency of these virtual evaluations and even improve patient care.

1.2 Relevant Literature and Data

Photographs have been used in medicine since the early part of the 20th century for documentation, research and publications.[1] Teledermatology, which often includes transmitting photographic images, has been established as a form of telemedicine since the 1990's.[2]

In 2012, parental photographs were even used in pediatric dermatology to study growth patterns of a specific birthmark, infantile hemangiomas.[3] More than 85% of photographs in that study were considered high enough quality to be able to assess the size of the hemangiomas by a pediatric dermatologist. Although the quality of photographic images has been evaluated when sent from a primary medical provider to a pediatric dermatologist, it does not appear that the quality of parental photographs have yet been studied.[4]

1.3 Compliance Statement

This study will be conducted in full accordance all applicable Children's Hospital of Philadelphia Research Policies and Procedures and all applicable Federal and state laws and regulations including 45 CFR 46, and the HIPAA Privacy Rule. Any episode of noncompliance will be documented.

The investigators will perform the study in accordance with this protocol, will obtain consent and assent (unless a waiver is granted), and will report unexpected problems in

accordance with The Children's Hospital of Philadelphia IRB Policies and Procedures and all federal requirements. Collection, recording, and reporting of data will be accurate and will ensure the privacy, health, and welfare of research subjects during and after the study.

2 STUDY OBJECTIVES

The purpose of the study is to evaluate the image quality of photographs taken by parents that are uploaded into the patient's medical record with and without instructions on how best to take the photographs. Diagnostic concordance between in-person and virtual diagnoses provided will also be evaluated.

Study Hypothesis #1: Photographs taken with the aid of the 3-step instruction sheet (study group) with be higher quality as determined by the Photograph Quality Rating Scale compared to those images taken without the instruction sheet (control group).

Study Hypothesis #2: Diagnostic concordance between in-person and virtual providers will be higher when image quality is higher.

2.1 Primary Objective (or Aim)

The primary objective of this study is to assess if image quality differs when parents are provided with instructions on how best to take photographs of their child's skin conditions using a mobile device.

2.2 Secondary Objectives (or Aim)

The secondary objective is to assess diagnostic concordance between the diagnosis provided by the in-person examination and the diagnosis provided by the virtual examination of the provided photographs.

3 INVESTIGATIONAL PLAN

3.1 General Schema of Study Design

This is a prospective cohort study to assess parental photographs of patient's skin conditions taken with and without an instructional sheet (see Appendix B). Concordance of the diagnoses provided based upon these photographs will also be studied.

3.2 Study Duration, Enrollment and Number of Sites

3.2.1 Date Range of Study

Patients may be enrolled from the date of IRB approval until the total number of projected patients are enrolled.

3.2.2 Total Number of Study Sites/Total Number of Subjects Projected

The study will be conducted at a single investigative site in the United States, the Children's Hospital of Philadelphia.

We anticipate enrolling approximately 50 patients and their parents in this study. This number was chosen to allow for a variety of diagnoses to be encountered. There will be 25 patients enrolled in the study arm (instruction sheet provided) and 25 patients enrolled in the control arm (no instruction sheet provided)

3.3 Study Population

3.3.1 Inclusion Criteria

1) Must be a new patient/parent dyad arrived at the main pediatric dermatology clinic at 3550 Market Street scheduled to see Marissa Perman, MD or Leslie Castelo-Soccio, MD, PhD.

2) Patient must be under the age of 18.

3) Consenting parent or guardian must be present and able to speak English to participate.

4) Patients are either already enrolled in MyCHOP (MyChart) or are willing to enroll during the encounter.

5) Parent or legal guardian has a mobile phone with the capability to download the free MyChart app.

6) Parents have a data plan that allows them to download the MyChart app (if not already downloaded) and upload pictures, and are willing to accept any potential data charges incurred with these activities.

7) Patient has active skin lesion or rash that can be photographed during the clinic visit.

3.3.2 Exclusion Criteria

1) Patient is over the age of 18.

2) Parent or guardian is not present or not able to speak English.

3) Parent or guardian is not able to enroll in MyCHOP (MyChart).

4) Parent or guardian does not have a mobile phone capable of downloading the MyChart app.

5) Photographs are not able to be taken (phone battery dies, phone/app does not work, patient is not cooperative, participant does not have time).

6) If there are no active skin lesions to photograph the patient/parent will not be enrolled (e.g. hives that are inactive, hyperhidrosis [excessive sweating], itching without a rash, resolved skin lesions [e.g. warts, molluscum]).

7) Patients presenting for a general full body skin exam will be excluded, as this would require full body photography, which is too time consuming. (Note: this does not include evaluation of one individual mole [nevus], which can be included in the study).

4 STUDY PROCEDURES

The study procedures are limited to the patient having a photograph taken of their skin condition in the clinic exam room by their parent or legal guardian using the parent or legal guardian's mobile phone.

4.1 Data Sources

4.1.1 Case ascertainment

Potential patient/parent dyads can be identified on Dr. Marissa Perman or Dr. Leslie Castelo-Soccio's clinic schedule via EPIC. All new parent/patients can be approached by a research coordinator in a private examination room in the clinic. If parent and patients meet the inclusion criteria, consent to the study, complete the survey (see Appendix A) and obtain a photograph, then they can be enrolled.

Randomizing patients to control and study groups: All odd numbered parent participants (i.e. patient #1, 3, etc.) will be provided an instruction sheet (see Appendix B) on how best to take photographs using a mobile smartphone. All even numbered parent participants (i.e. Patient #2, 4, etc.) will not be provided an instruction sheet. After consenting a parent/patient, if the parent is unable to complete the survey or obtain the photograph, they will not be considered an evaluable subject in the study and their participant number will not be used. There will only be one research coordinator enrolling one parent/patient at a time and therefore we will avoid any issues wherein a patient number is not used or used twice.

4.1.2 Data sources

EPIC will be queried for demographic information and diagnosis provided. Parents or legal guardians will complete a short survey (see Appendix A) including information about the patient's skin condition, make and model of the phone being used to take the photographs and general willingness to take photos via a mHealth app from home.

If a patient is presenting for more than one skin complaint, they will be instructed to choose the primary skin condition and answer survey questions about that skin condition. Only the primary skin condition needs to be photographed for the study purposes. Other skin conditions can be photographed if needed, but those images will not be included in the analysis. The research coordinator will label any additional photographs as such and will not extract them for the blinded reviewer (PM) to rate or examine.

4.2 Data Elements to be Abstracted

4.2.1 EPIC Data

- Patient age, gender and race/ethnicity
- Type of health insurance

- Diagnosis provided by pediatric dermatologist (MP) during clinic visit will only be evaluated after the diagnosis is provided by the blinded pediatric dermatologist (PM).

- Each image of the main skin condition will be identified by the research coordinator in the media section of EPIC. Those images identified will be labeled (e.g. Image a, Image b, etc.) and image quality will be scored by Patrick McMahon, MD as follows (score range 0-10), see Appendix C below.

    - Note: this scoring method is subjective and has not been validated previously, but attempts to include all relevant data needed to fully evaluate a clinical photograph. No validated scoring method for grading the quality of clinical photographs of skin was found upon completing a medical literature search and a general search of the internet using Google.

4.2.2 Photograph Quality Rating Scale

1. Clarity: 0 (very blurry), 1 (blurry), 2 (not blurry/in focus)

2. Perspective, i.e. skin condition captured completely:

    0 (no), 1 (partly), 2 (completely)

    * Perspective evaluates the degree to which the photograph captures the entire skin condition in well-framed image

3. Darkness: 0 (too dark), 1 (mildly dark), 2 (well lit)

4. Brightness: 0 (too bright), 1 (mildly bright), 2 (well lit)

5. Color: 0 (color very altered), 1 (color mildly altered), 2 (color not altered)

- Identified images from media section will be examined and a diagnosis will be provided by Patrick McMahon, MD (PM). Diagnosis will be written on the provided study sheet attached to the photograph quality rating scale sheets for each patient.
- Blinded reviewer (PM) will be blinded to the patient number, type of phone used by parent participant, as well as the diagnosis and treatment provided by MP.
- Blinded reviewer (PM) will not be blinded to the clinical information provided in the patient survey including duration, symptoms, location and treatment of skin condition as well as past medical history and current medications.
- Blinded reviewer (PM) will not provide direct patient care and will not communicate with the patient or MP unless needed for patient safety.
- If there is discordance noted between the diagnoses provided, both physicians (MP and PM) will discuss the discordance and decide if there should be an adjustment made to the diagnosis provided to the patient in the in-person visit. When needed, a third blinded physician may be involved to assess the discordance. This will allow for the best possible patient safety measures, quality improvement and care optimization.

4.2.3 Patient Survey Data (see Appendix A)

- Type of phone used
- Duration of skin condition
- Symptoms of skin condition: itching, pain, etc.
- Location on body of skin condition
- Prior treatment for skin condition
- Past medical history and current medications
- Rate willingness to communicate from home via a mHealth app about your child's health condition with a pediatric doctor who you have not met from 1 (not likely) to 10 (very likely)
- If a secure mHelalth app were available for you to send photographs to a pediatric dermatologist at CHOP for a diagnosis and treatment instead of coming in to the office, how much would you pay for that service?

5 STATISTICAL CONSIDERATIONS

5.1 Primary and Secondary Endpoints

The primary objective is to assess the image quality of all photographs taken and determine if there is a statistically significant difference between the quality of the images taken by those given the instruction sheet and those not given the instruction sheet. Other factors to be assessed that may influence image quality include: mobile device used, capability of parent/guardian to take photograph, age of patient, skin color, location of patient (on exam table, in stroller, in chair), location of skin disease on body (scalp, groin) and ambient lighting.

The secondary endpoint is to measure concordance between diagnoses provided by in-person examination of patient and virtual examination of the photograph of the patient. An assessment will be made to determine if image quality affects diagnostic concordance. In some cases, if a diagnosis cannot be rendered based upon poor image quality this will be noted as such.

5.2 Measures to Avoid Bias

To avoid bias all new qualifying parent/patients will be enrolled, not only the parent/patients who have already signed up for MyCHOP. This will avoid the bias that the parents who are more technologically capable may be the parents who are more likely to sign up for MyCHOP prior to the visit. There still may exist a bias that those parents who refuse to enroll are less capable of using the mobile device and may be less able to take a high quality photograph.

To avoid bias in the control group (those not provided instructions), parents in this group will not be given verbal instructions on how best to take the photograph. If needed, they will be shown how to download the MyChart app and how to attach photographs to the chart, but not how to take the photograph. All medical providers and staff interacting with the

participants will be counseled not to intervene or assist any of the participants in taking the photographs.

To avoid inter-provider bias, the three physicians providing diagnoses (Drs. Marissa Perman,Dr. Patrick McMahon, and Leslie Castelo-Soccio) are both in their 4th year of clinical practice post-fellowship and have similar prior training. They will also complete a pre-study test to establish concordance by evaluating 25 images of common skin conditions and providing diagnoses. This should provide the best comparison of diagnostic accuracy.

To avoid biasing the blinded provider (Patrick McMahon), he will have the research coordinator enroll patients, extract photographs from EPIC and relevant data from patient survey to avoid seeing the diagnosis provided by Drs. Perman and Leslie Castelo-Soccio.

To avoid bias when determining image quality, Dr. McMahon will not know which mobile device is used prior to rating image quality.

Taking photographs in the clinic setting provides a bias by standardizing the ambient lighting available. This bias may result in higher quality photographs. To avoid this bias, parents can have the option to provide additional photographs from home using the same device, but this will not be required as part of the study. If images are provided from home, the image quality will be rated without the rater knowing the setting in which the photograph was taken.

Taking photographs in a clinic setting may also provide a limitation in that the patients may have less time or be rushed compared to being able to take photographs at home without time restrictions. This bias may result in lower quality photographs as it can take several attempts to take clear photographs of young mobile children. To decrease this bias, parents can elect to send more photographs from home, but this will not be required.

5.3 Statistical Methods

Baseline and demographic characteristics will be summarized by standard descriptive summaries (e.g. means and standard deviations for continuous variables such as age and percentages for categorical variables such as gender).

The primary objective of this study is to rate image quality. Image quality will be rated on a scale from 0 (lowest quality) to 10 (highest quality). Rating will be based on the above 5-part scale including clarity, perspective, darkness, brightness and color. The average and range of all image quality ratings will be calculated (see Appendix D). Average and ranges of image quality will be compared between the instruction-provided group (the study group) and the group not given the instructions (the control group), using a two-sample t-test. Average and ranges of image quality will also be compared based on the mobile devices used and age of the patients.

The secondary objective of this study is to determine diagnostic concordance between diagnoses provided based on the in-person examination and the diagnoses provided based on the virtual examination of the photographs (see Appendix D). Diagnostic concordance will be absolute in nature and therefore will be considered completely concordant if either the same diagnosis was provided by physicians or discordant if a different diagnosis was

provided by the two physicians. No partial concordance will be allowed in this study. If a synonym was used by the two physicians this will be accepted as a concordant diagnosis (e.g. wart and verruca). Total rates of concordance and discordance will be measured as percentages (e.g. 45 of 50 diagnoses concordant = 90% concordance and 10% discordance). Concordance will be assessed using Cohen's Kappa.

6 STUDY ADMINISTRATION

6.1 Data Collection and Management

Data will be abstracted from medical records without any identifiable information (i.e. without use of Name, MRN, DOB, SSN, etc.). Instead, the abstracted information will be associated with the subject using only a unique identifying code. A separate master file will contain a mapping of patient identifying information to the unique identifying code.

1. Security: A copy of a password-protected data file will be stored on a secure hospital server and the office computer. Any paper surveys obtained will be kept in a research binder without identifiable information. The binder will be kept in the pediatric dermatology office in a locked cabinet when not being used.

2. De-identification: Data will not include identifiable information at the time of abstraction. Data will be maintained for 5 years after publication.

3. Patient images evaluated in this study are obtained using the MyChart app, which imports these images directly, and securely, from the parent's phone into the patient's EPIC medical record. These images will remain stored in the electronic medical record during the analysis process and will not be extracted or stored in any other location. If the images are required for publication or for any purpose, specific photographic consent will be obtained by the parent or legal guardian.

6.2 Confidentiality

All data and records generated during this study will be kept confidential in accordance with institutional policies and HIPAA on subject privacy. Investigators and other site personnel will not use such data and records for any purpose other than conducting the study.

Safeguards are described under Data Collection and Management.

6.3 Regulatory and Ethical Considerations

6.3.1 Risk Assessment

Risks to subjects included in this study are not greater than minimal. The primary risk in our study is that of a breach of confidentiality, which will be addressed by the methods described above. Depending on their mobile plan, parents may incur data charges downloading the MyChart app and uploading photographs.

No diagnosis or treatment will be based solely on the photographs taken for this study (without being confirmed by the clinical in-person assessment; if there is a discrepancy, the patient will be called back).

6.3.2 Potential Benefits of Study Participation

While no diagnosis or treatment will be based solely on the photographs taken for this study, indirect benefits to parents and patients in this study include having two separate evaluations of the patient's skin condition by two pediatric dermatologists: one in-person and one virtual examination. The virtual examination will not serve as actual patient care, but can provide a

second opinion in cases where that is clinically warranted. In the event that the virtual diagnosis is discordant with the diagnosis provided in-person, a third pediatric dermatologist can be asked to review the photographs blindly to determine if the in-person diagnosis provided may be incorrect. If the in-person diagnosis is considered to be even possibly incorrect, the patient and parent will be informed and counseled about the alternative diagnosis as stated in their consent form.

Another indirect benefit is the ability to create a validated set of instructions that can be used to improve the image quality of photographs sent from parents to all providers at The Children's Hospital of Philadelphia.

6.3.3 Risk-Benefit Assessment

The risks associated with this study are minimal and every precaution will be taken to ensure that even the risk of breach of confidentiality is unlikely. The potential benefits to future patients and physicians include improving image quality of photographs submitted by email or mHealth applications. By improving image quality there is a potential to improve diagnostic accuracy and therefore improve patient care provided to future patients. Improving image quality may also improve efficiency of providing this care by avoiding blurry, poor quality photographs and the need to request additional images.

6.4 Informed Consent/Assent and HIPAA Authorization

Informed consent and assent (when children are subjects) and HIPAA Authorization will be obtained for this prospective cohort study. CHOP Dermatology Photograph Consent will also be obtained from all parents or legal guardians at the time of enrollment.

6.5 Payment to Subjects/Families

This is not applicable for this study.

6.5.1 Reimbursement for travel, parking and meals

N/A

6.5.2 Payments to parent for time and inconvenience

Parents will not be reimbursed for any mobile data changes incurred downloading the MyChart app or uploading photographs.

6.5.3 Payments to subject for time, effort and inconvenience

This study can be conducted while the patient and family members are waiting for the physician in the exam room. It is therefore unlikely to add time to their clinic visit.

7 SAFETY MANAGEMENT

7.1 Clinical Adverse Events

Adverse events are not anticipated since taking photographs of the patients is a common occurrence in our office setting. The photographs will only be taken in the clinic

examination rooms by the parents/legal guardians. Taking photographs in the clinic room is a standard procedure that many patients currently undergo as part of patient care.

7.2 Adverse Event Reporting

Since the study procedures are not greater than minimal risk, SAEs are not expected. If any unanticipated problems related to the research, involving risks to subjects or others, happen during the course of this study (including SAEs) these will be reported to the IRB in accordance with CHOP IRB SOP 408: Unanticipated Problems Involving Risks to Subjects. AEs that are not serious but that are notable and could involve risks to subjects will be summarized in narrative or other format and submitted to the IRB at the time of continuing review.

8 PUBLICATION

Our intent is to publish the results of our research in a dermatology or pediatrics journal such as the Journal of the American Medical Association Pediatrics, Pediatric Dermatology, the Journal of the American Academy of Dermatology, or a similar publication.

Our results may be shared at various meetings, including the Society of Pediatric Dermatology Annual Meeting. There will likely be four authors on this publication: Dr. Patrick McMahon, Dr. Marissa Perman, Dr. Leslie Castelo-Soccio, and Daniel O'Connor (MS).

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APPENDICES

DATA SHEET FOR QUERYING CLINICAL INFORMATION TO BE COMPLETED BY RESEARCH COORDINATOR ENROLLING PARTICIPANTS

Patient #:

Instruction Sheet Provided: YES NO

INCLUSION/EXCLUSION CRITERIA

Parent or legal guardian present and English speaking: YES NO

Parent or legal guardian has capable mobile phone: YES NO

Patient scheduled for initial visit with Drs. Perman or Castelo: YES NO

Patient has active skin condition to photograph: YES NO

Patient being seen for general skin screening (e.g. Mole screening) NO YES

DEMOGRAPHIC INFORMATION

Patient age:

Patient gender:

Health Insurance:

MOBILE DEVICE INFORMATION

Type of mobile device used:

PHOTOGRAPH UPLOAD

Was photograph(s) uploaded to the patient chart by the parent/guardian? YES NO

Appendix A: Patient/Parent Survey Provided to ALL Participants

QUESTIONS FOR PARENTAL SURVEY TO BE COMPLETED BY PARENT OR LEGAL GUARDIAN

(Note: If the child has more than one skin condition that is being evaluated please answer the following questions ONLY about the main/primary skin condition)

1. When did your child's skin condition first start (days, months, years)?
2. Has it been getting worse, better or staying the same?
3. Where on the body is the skin condition located (please list all locations)?
4. Has the skin condition ever been… (circle all that apply)

Itchy Painful Burning Oozing Bleeding Scabbed Crusted Dry/Flaking Swollen

Changing in color Changing in shape

5. Has your child's skin condition ever been treated? If so, list all treatments including treatments by mouth, applied to skin or other.
6. Does your child have any medical conditions? If so, please list all:
7. Is your child regularly taking any medications by mouth? If so, list all:
8. How willing would you be to communicate via a secure mobile phone app about your child's skin conditions with a pediatric skin doctor (dermatologist) at CHOP instead of waiting for an initial in-person appointment?

   1 2 3 4 5 6 7 8 9 10

   (Not Willing) (Willing) (Very Willing)
9. If CHOP provided a mobile phone app that allowed you to securely send photographs to a pediatric skin doctor (dermatologist) and obtain a diagnosis and treatment in 48 hours instead of waiting for an initial clinic visit and coming in to the office, how much would you pay out-of-pocket for this service? (circle answer)

   $0 $20 $40 $60 $80 $100 $120 $140 $160 $180 $200 >$200

Appendix B: Instructions Provided ONLY to the Study Group

How to Best Take Photographs of a Skin Condition Using a Mobile Phone

1. *The set up*: Keep the child *still* and in a *well-lit* area

2. *The perspective shot and close ups*: Take one photograph of the entire affected region of the body **and** several closer photographs of the skin condition

3. *Make sure image is in focus*: Tap the screen of the phone to keep the skin lesion(s) in focus if needed

Appendix C: Photograph Quality Rating Scale
To be completed for all photographs by blinded reviewer(s)

Image (Label images by letters a, b, c, etc):

1. Clarity: Is photograph blurry or in focus?

0 (very blurry) **1 (somewhat blurry)** **2 (not blurry/in focus)**

2. Perspective: Does photograph capture the entire skin condition in well-framed image?

0 (no) **1 (partly)** **2 (fully)**

3. Darkness: Is photograph too dark?

0 (too dark) **1 (somewhat dark)** **2 (well lit)**

4. Brightness: Is photograph too bright?

0 (too bright) **1 (somewhat bright)** **2 (well ilt)**

5. Color: Is color altered or true?

0 (very altered) **1 (somewhat altered)** **2 (not altered)**

Total Score: _____

Appendix D: Summary Form

Most likely diagnosis: _____

Diagnostic Concordance: YES NO

Photograph Quality Rating Scale (0-10):

Image a.
Image b.
Image c.
Image d.
Image e.
Image f.
Image g.
Image h.
Image i.
Image j.
Image k.
Image l.
Image m.
Image n.
Image o.
Image p.

Range of Scores: _____

Average Score: _____