



Professor Peter Soyer

Academic Dermatologist

Brisbane, Australia

Teledermatology - Concurrent Workshop Repeated

Friday, 21 June 2013

Start 4:30pm

Start 5:35pm

Duration: 55mins

Duration: 55mins

Opus

Opus



Rotorua GP CME 2013

NZMA
New Zealand Medical Association

General Practice Conference & Medical Exhibition

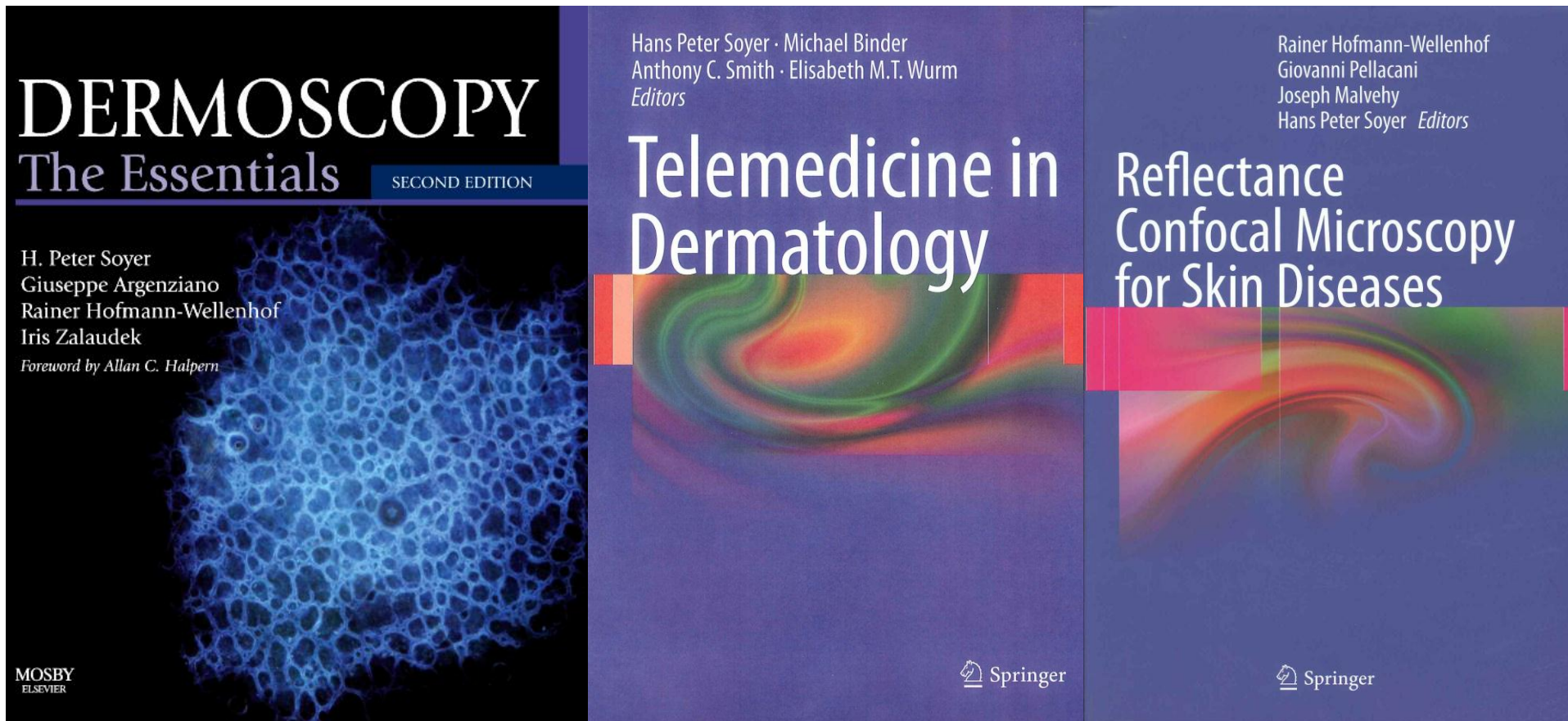
20-23 June 2013 | Energy Events Centre | Rotorua



Telemedicine in Dermatology

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Conflicts of Interests



e-derm-consult

MoleMap by Dermatologists

SkinbyDerms

Premise



Teledermatology equals dermatology



Teledermatology cannot be viewed in isolation

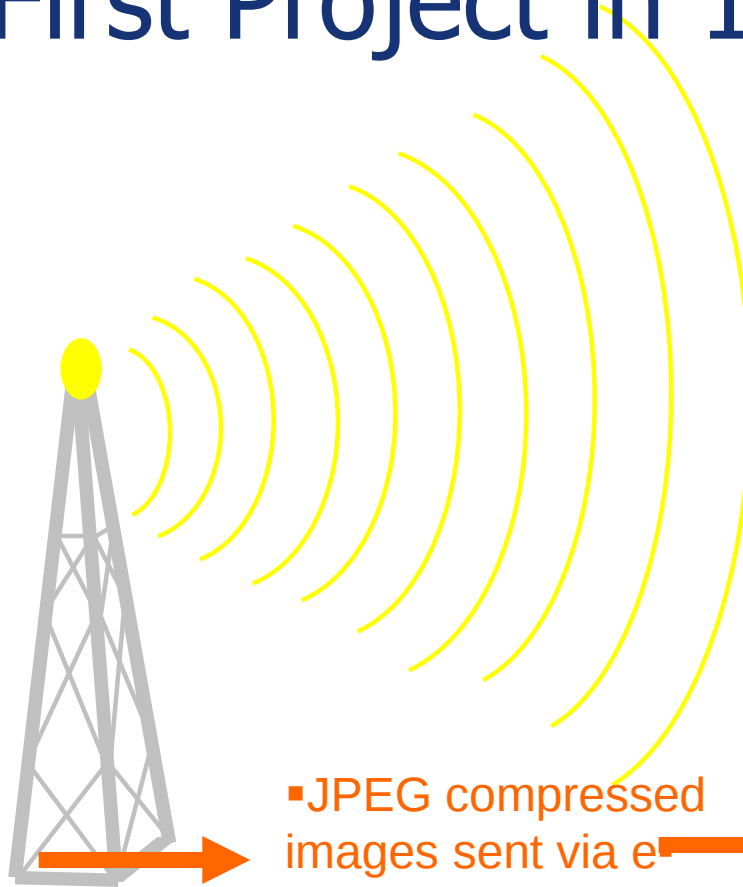
- Research studies
- Educational projects
- Clinical services
- Whither teledermatology?

First Project in 1998

L'Aquila

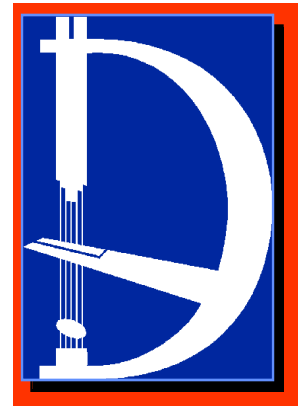


- 66 pigmented lesions
- Face-to-face dx



- JPEG compressed images sent via e-mail

Graz



- Telediagnosis

► Teledermoscopy — results of a multicentre study on 43 pigmented skin lesions

Domenico Piccolo*, Josef Smolle†, Giuseppe Argenziano‡, Ingrid H Wolf†, Ralph Braun§, Lorenzo Cerroni†, Angela Ferrari*, Rainer Hofmann-Wellenhof†, Robert O Kenet**, Fabio Magrini††, Giampiero Mazzocchetti*, Maria A Pizzichetta‡‡, Herwig Schaeppi***, Wilhelm Stolz†††, Masaru Tanaka‡‡‡, Helmut Kerl†, Sergio Chimenti* and H Peter Soyer†

*Department of Dermatology, University of L'Aquila, L'Aquila, Italy; †Department of Dermatology, University of Graz, Graz, Austria; ‡Department of Dermatology, University 'Federico II' of Naples, Naples, Italy; §Department of Dermatology, University of Geneva, Geneva, Switzerland; **Department of Medicine, Cornell University Medical College, New York, USA; ††Department of Dermatology, Addenbrooke's Hospital, Cambridge, UK; ‡‡Division of Preventive Oncology, Centro di Riferimento Oncologico, Aviano, Italy; ***Department of Dermatology, General Hospital Salzburg, Salzburg, Austria; †††Department of Dermatology, University of Regensburg, Regensburg, Germany; ‡‡‡Department of Dermatology, Keio University, Tokyo, Japan

Teledermoscopic Multicenter Study

	Kappa values	Sensitivity	Specificity
● Face-to-face diagnosis	0.740	72%	96.9
● Great experience (n = 3)	0.750 - 0.870	81.8 - 90.9%	93 - 100%
● Medium experience (n = 6)	0.480 - 0.685	54.5 - 90.9%	84 - 93.8%
● Low experience (n = 2)	0.350 - 0.396	45.5%	87.5 - 90.6%

ORIGINAL ARTICLE

The additive value of second opinion teleconsulting in the management of patients with challenging inflammatory, neoplastic skin diseases: a best practice model in dermatology?

GP Lozzi,^{†‡} HP Soyer,^{*‡¶} C Massone,^{‡**} T Micantonio,[†] B Kraenke,[‡] MC Fargnoli,[†] R Fink-Puches,[‡] B Binder,[‡] A Di Stefani,^{†§} R Hofmann-Wellenhof,[‡] K Peris[†]

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Keywords

additive value, second opinion, store-and-forward (SAF), teleconsultation, teledermatology, telemedicine

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Abstract

Background Telemedicine is the practice of healthcare using interactive processes of communication to facilitate healthcare delivery, including diagnosis, consultation and treatment, as well as education and transfer of medical data. The aim of teledermatology, just as telemedicine, is to promote best practice procedures and to improve the consistency and competence of health care.

Aim To investigate the diagnostic additive value of second opinion teleconsulting in patients with challenging dermatoses, among dermatologists working in two different dermatology departments.

 Mobile teledermatology: a feasibility study of 58 subjects using mobile phones

Christoph Ebner*, Elisabeth MT Wurm*, Barbara Binder*, Harald Kittler†, Gian Piero Lozzi‡, Cesare Massone*, Gerald Gabler§, Rainer Hofmann-Wellenhof* and H Peter Soyer*

*Department of Dermatology, Medical University of Graz, Graz, Austria; †Department of Dermatology, Medical University of Vienna, Vienna, Austria; ‡Department of Dermatology, University of L'Aquila, L'Aquila, Italy; §Department of IT and Telecommunications, Graz University Clinics and General Hospital, Graz, Austria

Journal of Telemedicine and Telecare 2008; 14: 2–7



Summary of results

- In almost 3 out of 4 cases (TD1: 70.7%; TD2: 75.9%) a skin condition can be diagnosed remotely with mobile phones
- 9 out of 10 cases (TD1: 96.6; TD2: 89.7%) are in the same diagnostic category provided by the face-to-face consultants

Melanoma Screening with Cellular Phones

Cesare Massone¹, Rainer Hofmann-Wellenhopf¹, Verena Ahlgrimm-Siess¹, Gerald Gabler², Christoph Ebner¹, H. Peter Soyer^{1*}

¹Department of Dermatology, Medical University of Graz, Graz, Austria, ²Department of IT and Telecommunications, Graz University Clinics and General Hospital, Graz, Austria

Background. Mobile teledermatology has recently been shown to be suitable for teledermatology despite limitations in image definition in preliminary studies. The unique aspect of mobile teledermatology is that this system represents a filtering or triage system, allowing a sensitive approach for the management of patients with emergent skin diseases. **Methodology/Principal Findings.** In this study we investigated the feasibility of teleconsultation using a new generation of cellular phones in pigmented skin lesions. 18 patients were selected consecutively in the Pigmented Skin Lesions Clinic of the Department of Dermatology, Medical University of Graz, Graz (Austria). Clinical and dermoscopic images were acquired using a Sony Ericsson with a built-in two-megapixel camera. Two teleconsultants reviewed the images on a specific web application (<http://www.dermahandy.net/default.asp>) where images had been uploaded in JPEG format. Compared to the face-to-face diagnoses, the two teleconsultants obtained a score of correct telediagnoses of 89% and of 91.5% reporting the clinical and dermoscopic images, respectively. **Conclusions/Significance.** The present work is the first study performing mobile teledermoscopy using cellular phones. Mobile teledermatology has the potential to become an easy applicable tool for everyone and a new approach for enhanced self-monitoring for skin cancer screening in the spirit of the eHealth program of the European Commission Information for Society and Media.

Citation: Massone C, Hofmann-Wellenhopf R, Ahlgrimm-Siess V, Gabler G, Ebner C, et al (2007) Melanoma Screening with Cellular Phones. PLoS ONE 2(5): e483. doi:10.1371/journal.pone.0000483

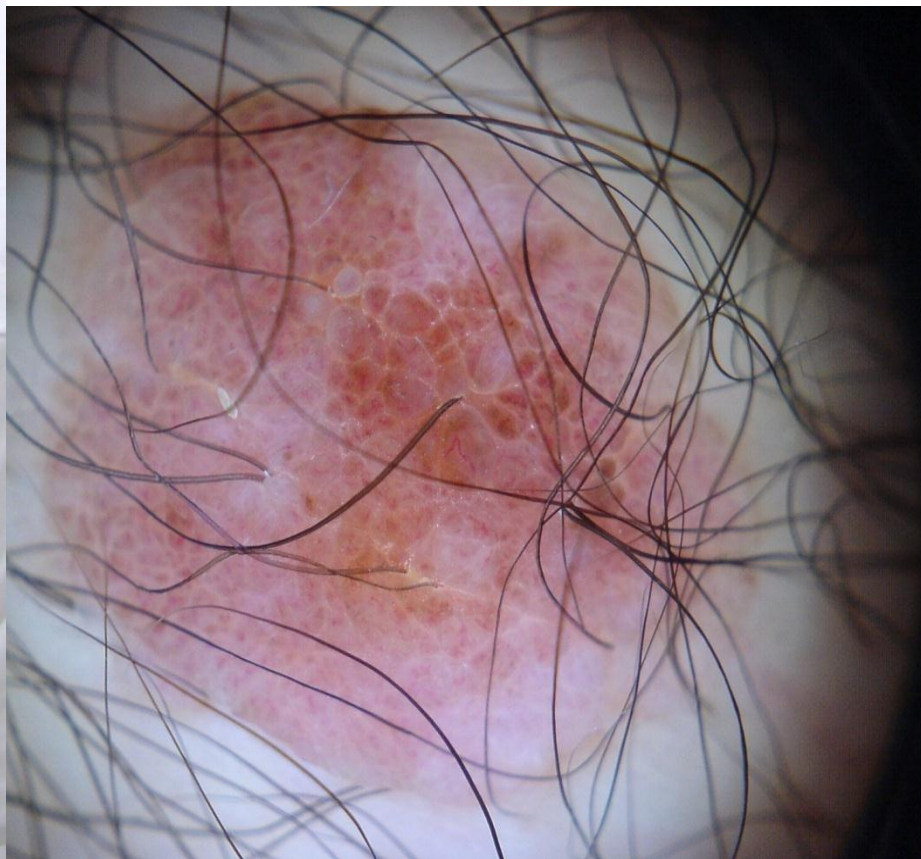
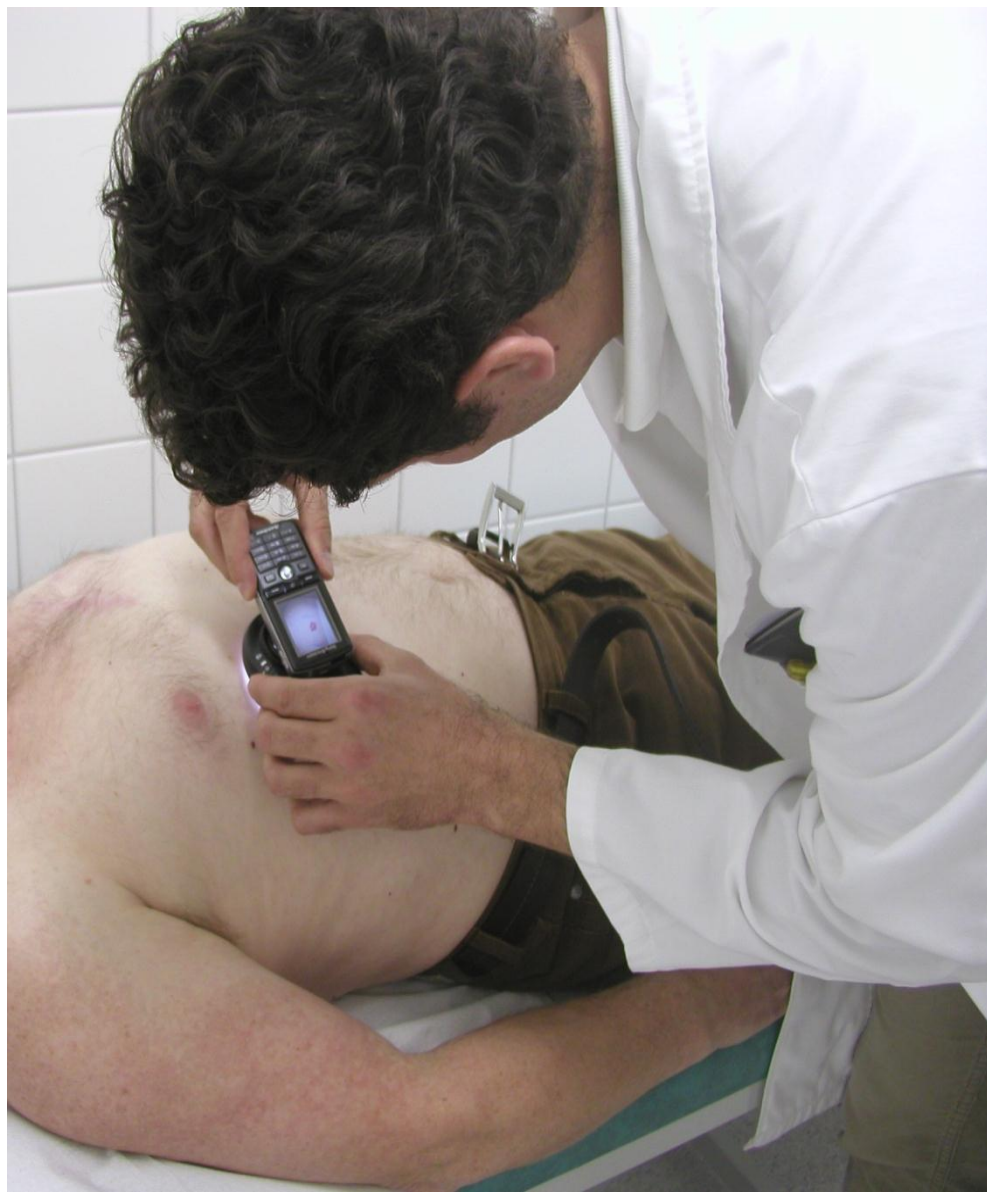
INTRODUCTION

The development of user-friendly technology has brought personal digital assistants (PDA) and cellular phones into everyday use. The power of these devices allows their use in more demanding tasks such as processing medical images; their use in telemedicine and particular in teledermatology has been recently proven and the name “mobile teledermatology” has been coined.[1,2] In the first pilot studies limitations in image definition of cellular phones have been found, because the optics of the first generation cellular phones did not allow close-up or macro imaging.[1–3] Nevertheless, these studies have shown the usability and the feasibility of these new devices in teledermatology.[1–3] In fact, the unique aspect of mobile teledermatology is that this system might become

invasive, *in vivo* technique, has the potential to improve up to 49% the diagnostic accuracy for melanoma if used by experts.[14,15] In this study we investigated the feasibility to perform melanoma screening with both clinical and dermoscopic images acquired using a new generation of cellular phones.

MATERIALS AND METHODS

Eighteen consecutive patients (M:F = 12:6; mean age: 43,38; median age: 45; range: 14–78) were selected in the Pigmented Skin Lesions Clinic of the Department of Dermatology, Medical University of Graz, Graz (Austria) during two routine working days. Only patients who agreed to the study and signed the patient consent were enrolled. The face-to-face (FTF) diagnoses (16



Pigmented Lesions & Mobile Phones

- The 2 teleconsultants obtained a score of correct telediagnosis of 89% and 94%, respectively, compared to face-to-face diagnosis
- The 2 melanomas within the 18 pigmented skin lesions were correctly identified by both teleconsultants

Educational Projects

- Discussion Forum of the IDS at <http://dermoscopy.telederm.org/>
- The telederm.org Community <http://www.telederm.org>

Newsletter

Updates

Education

Case Of The Month

Studies

Discussion Forum

Discussion Forum Login

username



password



log on

Search Forum Cases

Search for:

search

Just happened...



Welcome to the International Dermoscopy Society

Thursday, 27 May 2010 22:43 | Written by Gerald Gabler |

Our membership is worldwide and currently more than 100 countries are represented.

Individuals may join by direct application for free membership.

Our organization conducts a world congress every 3 years and sister society meetings every year during the AAD congress in US and the EADV congress in Europe.

The IDS has been founded in 2003 by H. Peter Soyer, Rainer Hofmann-Wellenhof and Giuseppe Argenziano to promote clinical research in dermoscopy and to represent a clinically oriented international organization with a thrust towards helping and improving education in dermoscopy.

We welcome your participation in the International Dermoscopy Society!

For registered members: Please visit our [MEMBERS AREA](#) to get access to the forum cases.



Free
Podcast

Dermoscopy of globular nevi - Prof. I. Zala



Executive Board Members
IDS Podcasts
Forum Board Members
Board Members
Studies

Newest...

Lesion on scalp of 35 year old female

Update # 16: August 2012

Update #15: June 2012

IDS Newsletter #7: June 2012

Update #14: May 2012

Newest Case of the Month



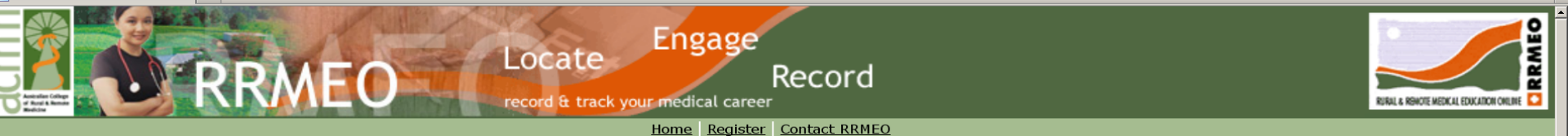
DPC featured article

Quiz in Dermatoscopy:
What is your diagnosis?

Newsletter of the IDS







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User: Jim | [Logout](#) | [About Us](#) | [Help](#)

Access to RRMEO modules for Non ACRRM Members

ACRRM is currently offering free limited access to specific modules on RRMEO.

[Click here](#) for more information about **FREE ACCESS** to Tele-Derm and Radiology Online through the Medical Specialist Outreach Assistance Program (MSOAP).

Also [click here](#) for information about **FREE ACCESS** to the OTD Supervisors Support module.

ACRRM members and RRMEO subscribers should login to access all modules as usual

Welcome to RRMEO

RRMEO is the Australian College of Rural and Remote Medicine's medical education and online learning platform that combines online resources and education activities with telemedicine services.

Through RRMEO, ACRRM members (and other RRMEO subscribers) participate in a wide range of learning activities and discussion groups, sharing experiences and knowledge with mentors and peers nearby or thousands of kilometres away.

RRMEO allows each doctor to:

- **locate** educational events, online education, training posts and clinical attachments via the RRMEO Educational Inventory;
- **engage** in online modules and online groups; and to
- **record** their lifelong learning toward credentialling in their own unique online Learning Planner

So whether you want to look up the next weekend workshop near you, or search for a clinical attachment in obstetrics, wanting to submit a case to Tele-Derm, or simply wanting to record your latest educational activity in your online Learning Planner - then simply login now.

Username: Login
Password: [password reminder](#)

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Skin Emergency Telemedicine Service

1. Patient seen and photographed in A&E.
2. Proforma filled out.
3. All forwarded to SETS.
4. Dermatologist **notified** [text/phone call].
5. Images and information viewed.
6. Advice back to A and E via e-mail/phone call.
7. Patient reviewed face to face in dermatology OPD within 2 weeks.

Place Patient Label Here

PAH Teledermatology Service

Department of Dermatology, Princess Alexandra Hospital, Brisbane

 *Dermatology Research Centre, The University of Queensland*

Referral site (Location/hospital/department):

Referral Doctor: Name:

Direct ph #:

Email:

Patient ID number:

DOB:

Sex:

☐

Male

☐

Female

History of presenting complaint:

Duration:

Progression:

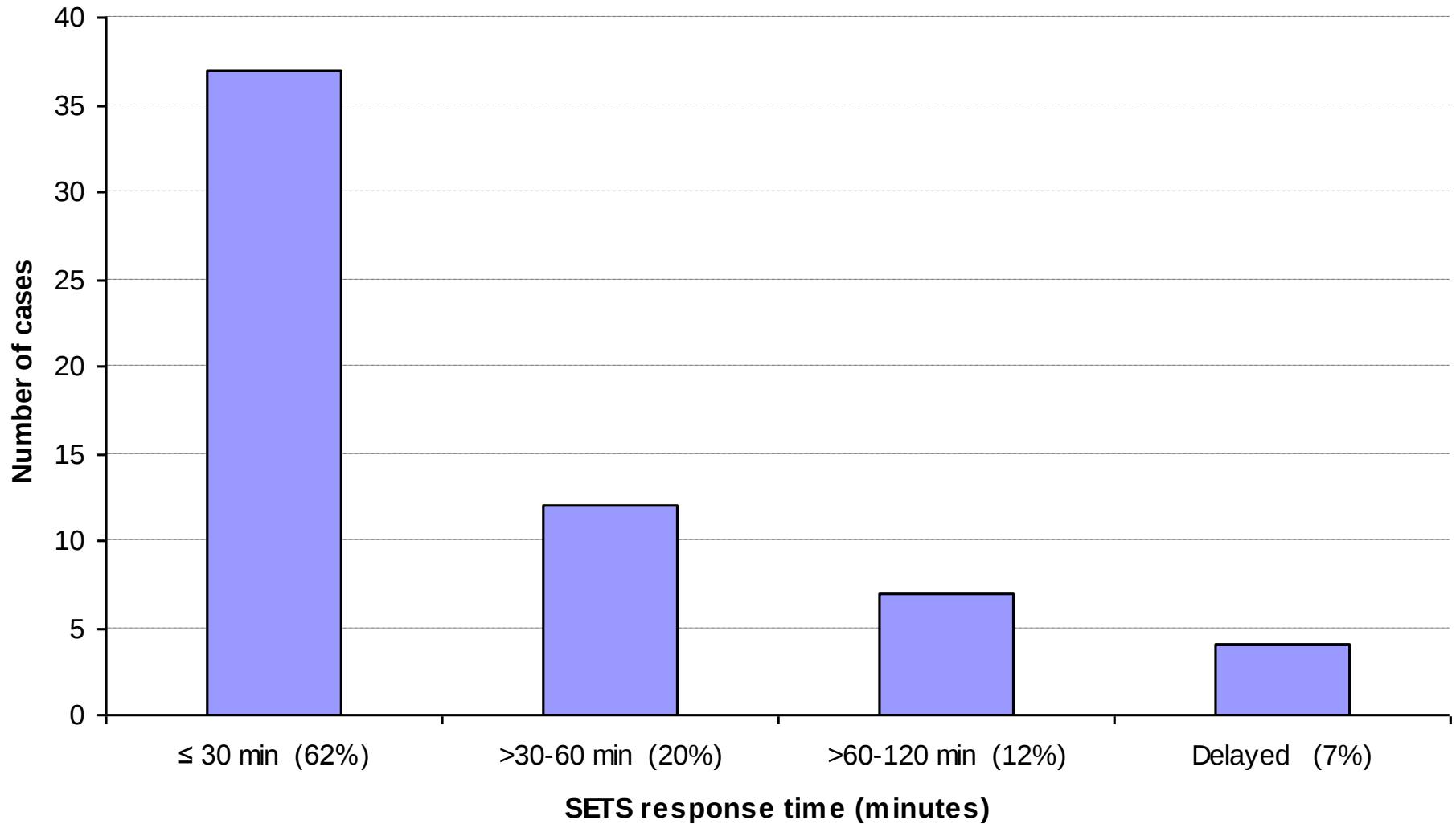
Associated symptoms (e.g. itch, fever, arthralgia, malaise):

Results of any investigations (e.g. blood/urine tests, biopsies, x-rays):

Treatment to date:

General medical history:

SETS response time from dermatologist





Assessments	Diagnostic agreement (ED vs Tele) N = 60	Diagnostic agreement (Tele vs Final) N = 50	Management agreement (Tele vs Final) N = 50
Complete agreement (C)	26 (43%)	40 (80%)	48 (96%)
Relative agreement (R)	23 (38%)	10 (20%)	2 (4%)
No agreement (N)	3 (5%)	0	0
Not applicable (NA)	8 (13%) [No ED diagnoses]	10 [No FTF]	10 [No FTF]

Medicare Item Numbers

Telehealth 2012

- Start up incentive payments (\$4800 for 10 cases)
- 50% loading on standard fees
- \$48 incentive per episode of care
- Funds for GPs, RACFs and practice nurses



Skin by Derms

Login to Skin by Derms.



Easy

Details of the patient's skin condition is submitted with a simple step by step form.



Secure

All patient details are securely transferred using a 256 Bit Security Certificate.



Fast

We've streamlined the process to ensure that a specialist reviews cases fast.



Support

Telephone and email support is available to assist you with any queries you have.

Please Note: Patients must have an existing account setup by G.P.

[Forgot your password?](#)

LOGIN ➔

Digital Regions

- \$4m (Federal and State Governments)
- Telehealth facilities at Princess Alexandra Hospital, Brisbane, Queensland
- Clinical services in
 - Cardiology (echo)
 - Dermatology
 - Endocrinology
 - Geriatric medicine



GRC 310

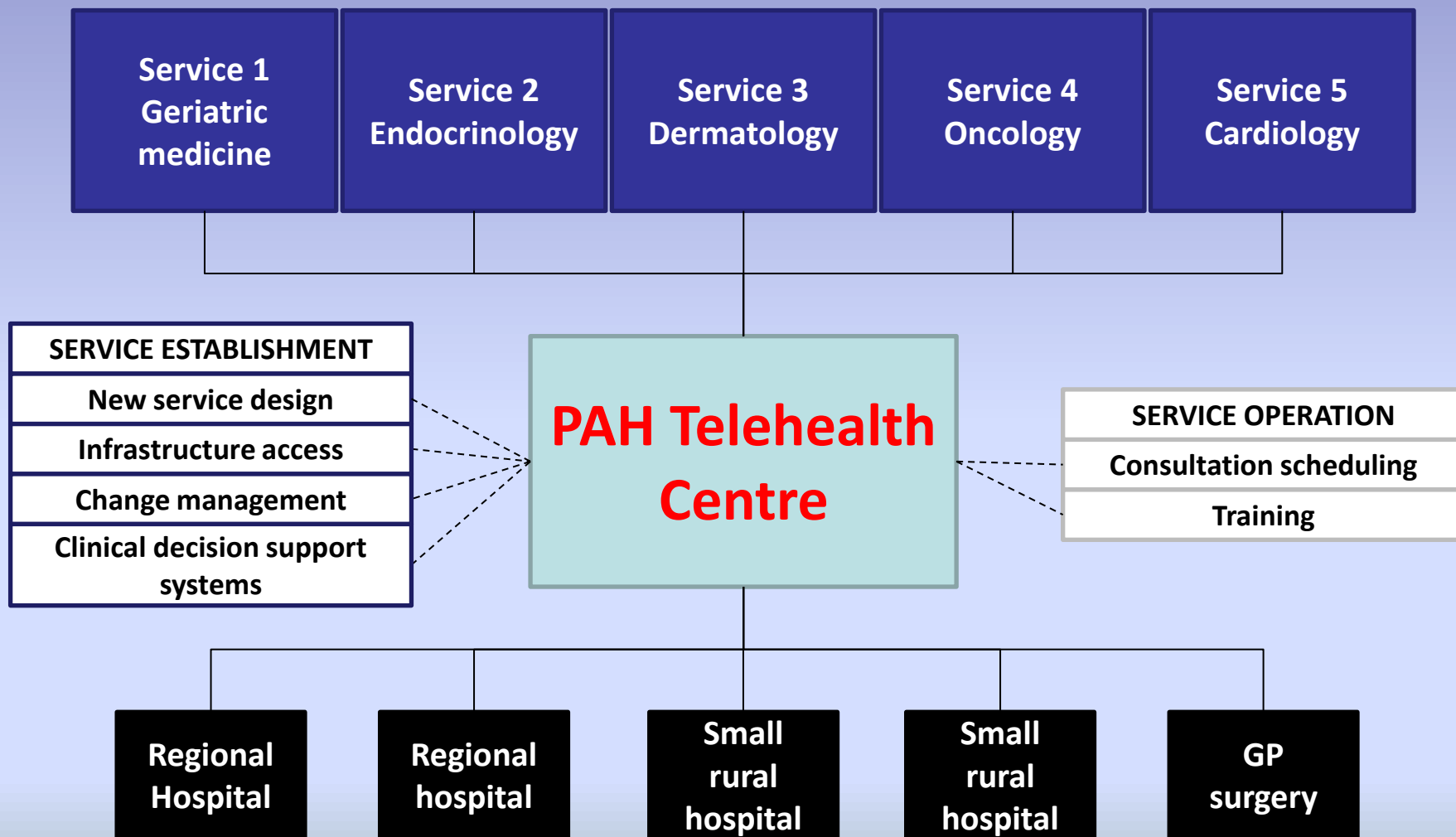
telehealth

WELCOME TO THE
Princess Alexandra
Telehealth Centre
Wendy Taylor
Nurse





PA “Online”



Store and Forward Dermatology Consultations 2012 using telederm@uq.edu.au

Beaudesert 1

Bundell 1

Childers 1

Dalby 2

Dirranbandi 2

Gold Coast Hospital 4

Inverell Community Centre 2

Ipswich 4

Kingaroy 2

Lismore 1

Logan Hospital 15

Mater Hospital 2

Mt Isa 34

QEI 16

Redland 4

Toowoomba 5

Townsville 4

Wacol detention centre 1

Warwick 2

Wynnum 1

Not Stated/unsure 14





Whither teledermatology?

What is the likely future of teledermatology?

Device Market – FotoFinder Handyscope





Requests

0

Sent

7

175 Credits

[My Account](#)

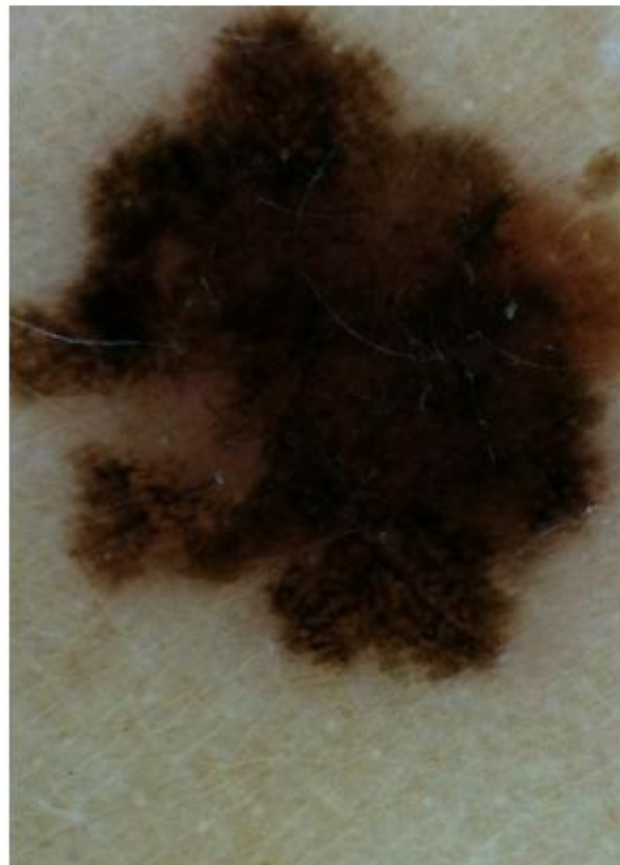
[Logout](#)

 **H. Peter Soyer, MD, FACD** 14.02.2012, 12:20am

[Download PDF](#)

 Closed at 14.02.2012, 12:20am

Case ID#: 12-02-10-C00001



Arm upper arm flexor side right

Date & Time

Source

Medical history

07.02.2012, 05:05pm

 Lilian iPhone

not_sure

Second Opinion

Diagnosis

suspected invasive melanoma

Differential Diagnosis

See comment

Suggestion

Immediate Complete Excision

Comment

The heavily pigmented lesion reveals the typical dermoscopic features of a superficial melanoma – broadened pigment network and irregular streaks.

Requests

0

Sent

7

175 Credits

[My Account](#)

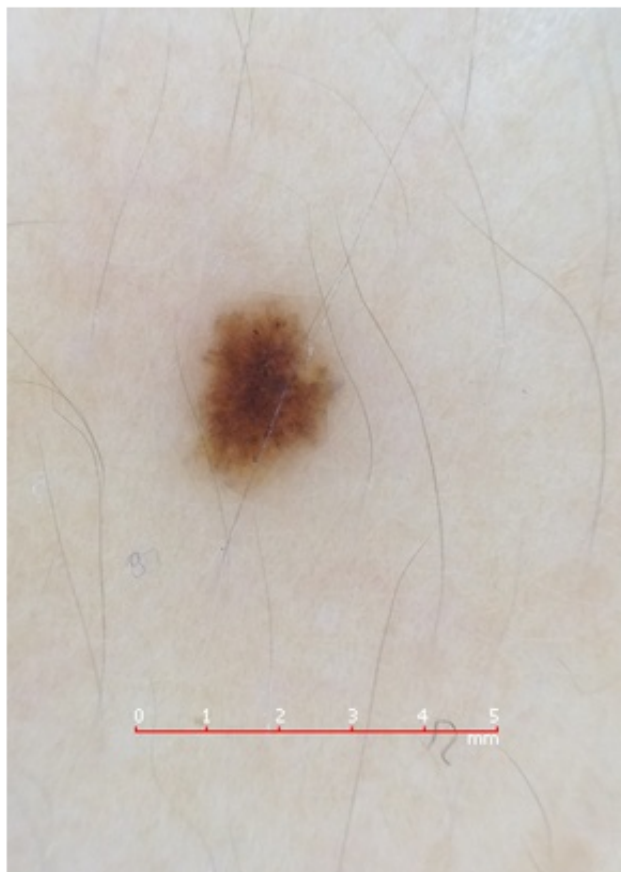
[Logout](#)

[H. Peter Soyer, MD, FACD](#) 26.01.2012, 02:28am

[Download PDF](#)

✓ Closed at 26.01.2012, 02:28am

Case ID#: 12-01-26-C00001



Arm upper arm extensor side right

Date & Time

Source

Medical history

26.01.2012, 01:10am

iPhone Valentis Beauty

no

Second Opinion

Diagnosis

Benign Nevus

Differential Diagnosis

See comment

Suggestion

Checkup 12

Comment

This is a predominantly reticular type of of a benign dysplastic (Clark) nevus. Despite its benign nature self-monitor and annual follow-up is

clinical arena has been stressed by the US Institute of Medicine. The concept of patient-centered care is now common practice in many areas.

Involvement of the caregiver is critical to successful treatment. The authors highlight that mothers are the usual caregivers for their children's medical conditions. They appropriately highlight measures such as discussing the disease process and administration of medication as being key to successful therapies. Families do not routinely feel comfortable with the overall management of their children's skin disease.² Taking time to engage the caregivers and (when feasible) the patients in these discussions is critical.¹ Awareness of cultural and other family needs must be included. Demonstrating topical application methods or physically identifying specific areas for application may better clarify verbal or written instructions. Any concerns that the family or patient might have must be elicited and addressed by the physician, a process often requiring strong communication skills.

These practices are not new and have been used in the management of other diseases such as asthma, where identical measures have proven their efficacy. An additional adherence enhancement tool that I have used success-

RESEARCH LETTERS

Enhanced Skin Self-examination: A Novel Approach to Skin Cancer Monitoring and Follow-up

Advances in mobile telephone technology and available dermoscopic attachments for mobile telephones have created a unique opportunity for consumer-initiated mobile teledermoscopy. At least 2 companies market a dermoscope attachment for an iPhone (Apple), forming a mobile teledermoscope. These devices and the corresponding software applications (apps) enable (1) lesion magnification (at least $\times 20$) and visualization with polarized light; (2) photographic documentation using the telephone camera; (3) lesion measurement (ruler); (4) adding of image and lesion details; and (5) e-mail data to a teledermatologist for review. For lesion assessment, the asymmetry-color (AC) rule has 94% sensitivity and 62% specificity for melanoma identification by consumers.¹ Thus, consumers can be edu-



Ask a dermatologist about your rash!

Use your cell phone **quickly**, **smoothly** and **safely** without any hassle. An assessment is made by a dermatologist.

[Send a picture](#)


Send a picture



*Send a
picture*

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Download our **iPhone app** or **Android app** for free. You can also send an image using our **web form**.

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as rough as rock

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Senseg turns touch screens into *Feel Screens*. With Senseg touch screens come alive with textures, contours and edges that users can feel. Using Senseg technology, makers of tablet computers, smart phones, and any touch interface device can deliver revolutionary user experiences with high fidelity tactile sensations. Your customers will *Feel the Difference* with Senseg.

Future Impact



Time & place-independent care delivery



New definitions for referral chain and for clinical visits



Super-specialization will become a reality