What is Vitiligo?

Vitiligo is an idiopathic acquired disease, which is characterized by a sudden loss of the skin colour. This is not only a harmless anomaly. Patients suffer from severe psychological stress. Consequently other illnesses can occur. The etiology of vitiligo is still unclear. The incidence ranges between 0.5 – 1% of the world population affecting all skin colours and gender equally. Vitiligo can appear at any age but the peak onset is around the age of 20 years. Approximately 40% of the patients have another affected member in the family. An isomorphic response (Koebner- phenomenon) is observed in 45% of affected individuals. This can trigger the onset of the disease after an injury/trauma and it can worsen an ongoing vitiligo. Vitiligo can itch!
Basic Research Leads to New Knowledge

- Melanocytes are still present in longstanding (> 25 years) depigmented skin of patients with vitiligo.  

- All patients with vitiligo generate and accumulate hydrogen peroxide (H₂O₂) in their epidermis.  

- To date there are six sources of H₂O₂ generation documented in vitiligo.  

- The patients with vitiligo cannot efficiently remove these high levels of H₂O₂ due to low catalase, glutathione peroxidase and thioredoxin reductase levels.  

- This patient group has difficulties to maintain the calcium balance in the skin.  

- For the first time patients with vitiligo can be diagnosed based on their ability to metabolize the essential amino acid L-phenylalanine. 40% of all patients have difficulties to deal with
L-phenylalanine. A specific test allows to tailor the treatment for each individual patient.
(Schallreuter et al, Biochem Biophys Res Commun. (1988) 395-399 and unpublished data)

- Clinical evaluation of a large patient group does not support the autoimmune hypothesis in vitiligo as the primary event.
(Schallreuter et al, Dermatology (1994) 188: 269-275.)

**A New Treatment as a Result of Basic Research**

Pseudocatalase cream plus calcium has been originally developed by Schallreuter et al and was used as a substitution for low catalase levels in the treatment of vitiligo (K U Schallreuter, J M Wood and K R Lemke et al. Treatment of vitiligo with a topical application of pseudocatalase and calcium in combination with short term UVB exposure, Dermatology, 190: 223-229, 1995). The word pseudocatalase has been introduced by these authors to differentiate between the natural enzyme catalase and a chemical complex which does the same job, i.e. degrading hydrogen peroxide.

**In this context, it is noteworthy that catalase cannot penetrate the top layer of the skin. Therefore, it is important to note that any products containing natural catalase in a cream are basically ineffective, and any product advertised as catalase in the treatment of vitiligo should be used with caution.**

- Repigmentation with pseudocatalase cream PC-KUS can be achieved in all skin colours and is independent of the percentage of depigmented skin and the duration of the disease! First signs of repigmentation can be observed after 3-4 months.

- This treatment modality can also successfully repigment lips, ears and genitals. However, the response on fingers and feet is disappointing. (Schallreuter et al, Dermatology (1995) 190: 223-229.)

- The removal of high levels of epidermal H$_2$O$_2$ with narrowband

- The treatment has no side effects providing the liver function of the affected individual is normal. (Schallreuter et al, Dermatology (1995) 190: 223-229.)

- A significant faster initiation of repigmentation can be induced with the combination of climatotherapy at the Dead Sea together with pseudocatalase PC-KUS over a period of 21 days. First repigmentation occurs between the day 14-20. This fast repigmentation lasts for an additional 4 months when continued with daily treatment using narrowband UVB activated pseudocatalase PC-KUS. (Schallreuter et al, Int. Journal of Dermatol (2002) in press.)

For further information see: http://www.brad.ac.uk/admin/pr/February2002/skin.htm

- The shelf life of pseudocatalase PC-KUS stored at 4°C is 12 months.

**Pseudocatalase Copies**

Recently a copied pseudocatalase cream plus calcium P-CAT has been advertised by Northwestern University in Chigaco, Illinois, USA. Much confusion has taken place since the same name has been used from the original publication by Schallreuter et al 1995. The publications from Schallreuter et al on the subject of pseudocatalase have been used to support the efficacy of this treatment. More recently Community Drug, 517 Greenfield Avenue, Suite B, Pittsburgh is offering the same formulation for sale via the internet.

The creams from both Northwestern and Community Drug are neither tested and do not hold their promise in reduction of hydrogen peroxide, which is important for recovery from the oxidative stress in the skin of all patients.
Both creams have been examined and analysed in our laboratory *in vivo* and *in vitro* on patients skin. The data clearly shows that both copied pseudocatalase complexes are identical but have very little effect.

1. Both Pseudocatalase plus calcium (P-CAT) from Northwestern University and pseudocatalase plus calcium from Community Drug do not show any effect after 5 minutes compared to the PC-KUS formulation which removes the H$_2$O$_2$ completely.

2. The shelf life of both pseudocatalase copies is very short, whereas the shelf life of PC-KUS is 12 months.

3. The patient information from both Northwestern University and Community Drug do state that there are no systemic side effects. This is not true because the cream contains manganese. This compound can be toxic under certain conditions. Any accumulation could clearly lead to complications. In good medical practice the patient should be
tested before starting the treatment and the patient should be controlled by a qualified physician every 10-12 months.

Pseudocatalase PC-KUS has been successfully used in over 1000 patients. This treatment modality is a very disciplined approach. **In our hands we can repigment 95% of all affected individuals.** The results are excellent regardless of skin color, extent and duration of the disease, as well as the age of the patient.

**Figures 2a/b**

Repigmentation of the face.

Mrs Maxine Whitton has suffered from vitiligo for 47 years. Figure 2a shows her face before treatment with PC-KUS and Figure 2b shows her face 12 months later. Note the even skin colour – there is no hyperpigmentation despite her dark skin colour.
Figure 3a/b
Repigmentation of lips and ears.

before

after
Figure 4

Vitiligo for 21 years since adolescence, showing the face before and after 4 months treatment with narrowband activated pseudocatalase PC-KUS.
**Figure 5**
Extensive acute vitiligo of the back before and after 8 months treatment with narrowband activated pseudocatalase PC-KUS.

**Figure 6**
One example of fast repigmentation with Combined Climatotherapy at the Dead Sea and pseudocatalase PC-KUS.
Repigmentation of hands with narrowband activated pseudocatalase PC-KUS after 8 months

Patients comments:

“I just wanted to say hello and say thank you once again for all your hard work and commitment to your research. Without it I would not be experiencing marvelous repigmentation right now, so thank you once again. Further please know that your hard work is appreciated by all your patients because you make it possible for us to live normal lives again!!!! “

“I had to write as I wanted to thank you all again for the work you’re doing. My kids went back to school today and so I saw friends I hadn’t seen all summer. They were just amazed by the change in me. I’m on cloud 9, so happy!”

“I have tried many things the past 4 years or so to try and improve my vitiligo – dietary changes, homeopathy etc – and the pseudocatalase/UVB treatment is the ONLY one which has produced any improvement at all. So of course I am very pleased and very impressed with the method you and your colleagues have pioneered.”

“I have discovered something wonderful today…..2 black eyelashes amongst the white ones!!!! Do you recall, half of one eyelid was white, that repigmented, but the lashes stayed white, well I discovered 2 black eyelashes coming through in the middle of the row of white lashes!!!”
Are you interested in this treatment?

We are offering individually tailored treatment for vitiligo in the Institute for Pigmentary Disorders in Association with the University of Greifswald in Germany.

For further information please contact: -

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There is a book, which could be important to you.

Do you want to know how patients with vitiligo see themselves with their disease? Do you want to know how much these individuals suffer?

Then you must read "Damned White Spots" by Professor Karin Uta Schallreuter. The book is unique and gives a real insight into the feelings of other people, who have vitiligo.

To order the book please contact Mrs Susan Shergill by Fax: +44 1274 235290 or E-mail: vitiligo@bradford.ac.uk
The proceeds from this book will go towards vitiligo research.
DAMNED WHITE SPOTS

A collection of words and images by patients with vitiligo

By Karin Uta Schallreuter
ATTENTION

“PATIENTS BEWARE OF ADVERTISED PSEUDOCATALASE WHERE THERE ARE NO PEER REVIEWED PUBLICATIONS IN THE INTERNATIONAL DERMATOLOGY JOURNALS THAT SUPPORT OR SUBSTANTIATE THE EFFICACY OF THE PRODUCTS ON THE MARKET CLAIMING PSEUDOCATALASE ACTIVITY WITHOUT CLINICAL PROOF”.