

# What do we do best and what do we still need to develop

?

Ben Merrett CEO DEBRA UK

#Fighteb

### EB care and research is worldwide





### DEBRA UK funded research 2017 (UK)

Defining the role of kindlin-1 in the regulation of microtubule stability and mitosis

Professor Valerie Brunton University of Edinburgh, Scotland

Grant: £191,838

TGF-β signalling in RDEB Squamous Cell Carcinoma

Dr Gareth Inman & Dr Andrew South University of Dundee, Scotland

Grant: £190,284

Development of Novel Gene Technology for Treating Epidermolysis Bullosa Simplex

Dr Peter van den Akker University of Dundee, Scotland

Grant: £202,081

**Development of a Skin Fragility Assessment Tool** 

Dr Robyn Hickerson

University of Dundee, Scotland

Grant: £38,225

EBS Genotyping Database
Professor Irwin McLean
University of Dundee, Scotland
Grant: £24,000

A prospective phase I study of lentiviral-medicated COL7A genecorrected autologous fibroblast therapy in adults with recessive dystrophic epidermolysis bullosa (LENTICOL-F)

Professor John McGrath

St John's Institute of Dermatology, London

Grant: £499,320 (SRF)

Understanding how allogeneic mesenchymal stromal cells can modify disease severity in Recessive Dystrophic Epidermolysis Bullosa (ADSTEM)

Professor John McGrath

St John's Institute of Dermatology, London

Grant: £432,496 (SRF)

Natural History and Clinical Endpoints Study in Epidermolysis **Dr Jemma Mellerio** 

St Thomas' Hospital, London

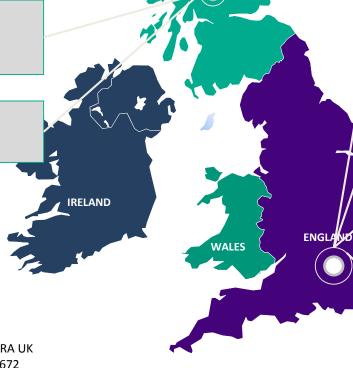
Grant: £177,736

Evaluation of the early efficacy of intravenously administered allogeneic mesenchymal stromal cells on itching in adults with Epidermolysis Bullosa Pruriginosa

**Professor John McGrath** 

St John's Institute of Dermatology, London

Grant: £497,360



SRF holds a restricted research fund within DEBRA UK and now is also a UK registered charity no 1158672

### DEBRA UK funded research 2017 (Global)

Modelling the Genetics of Epidermolysis Bullosa in mice

**Dr Derry Roopenian** 

The Jackson Laboratory, Maine, USA

Grant: \$302,433

Completed

Novel approaches for read-through of nonsense mutations in COL7A1

**Professor Jouni Uitto** 

Thomas Jefferson University, Philadelphia, USA

Grant: \$184.882

Limbal stem cells for treatment of corneal wounds in Epidermolysis Bullosa

Professor Jakub Tolar

University of Minnesota, USA

Grant: **\$250,000 (SRF)** 

"First in EB" Phase II Trial of Rigosertib for Recessive Dystrophic Epidermolysis Bullosa Squamous Cell

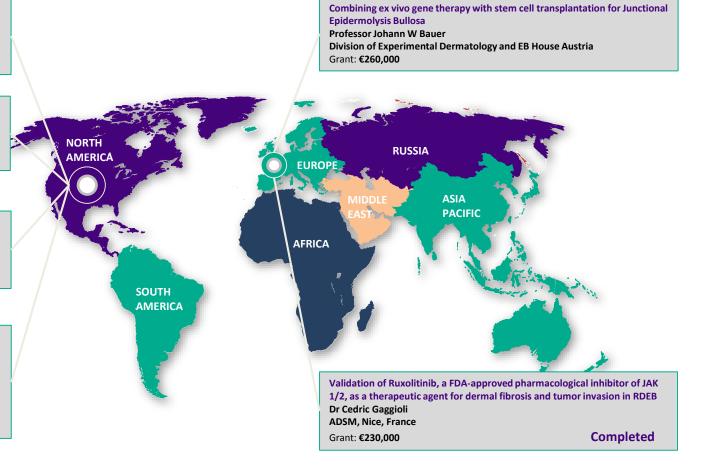
**Completed** 

Carcinoma Dr Andrew South

Thomas Jefferson University, Philadelphia, USA (with clinical sites in Austria/UK)

Current Grant - £329.861

Total Grant with UK site: \$557,842



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For more information visit: http://www.debra.org.uk/uk-funded-projects/current-uk-funded-projects

### EB research is accelerating



- DEBRA UK, Austria, USA primary funders (DEBRA International)
- Sohana Research Fund UK
- EB Research Partnership EB Medical Research Foundation USA
- Other government and agency funding
- Pharmaceutical and biotechnology companies





- 1 Which wound care method gets better outcomes
- 2 What is the best treatment to control itch
- 3 What is the best pain control strategy
- 4 How much does management in reference centres help
- 5 How effective is tumour early diagnosis
- 6 What are the long term effects of syndactyly surgery
- 7 Which is the most important method to prevent or delay syndactyly
- 8 What role might tissue engineering have in treating wounds
- 9 What role might stem cell therapy and bone marrow transplantation play
- 10 What role might growth hormone play

Wound Healing Priority Setting Meeting

London December 2016 in doesn't work

### Grant Rounds 2017



- Wound healing projects generated from priority setting meeting Dec 2016 (18 at stage 2 applications Euro 6m)
- All projects peer reviewed organised by UK and Austria
- Scientifically robust proposals approved for funding
- 3 projects costing about £1m

### What about pruritus/itch?

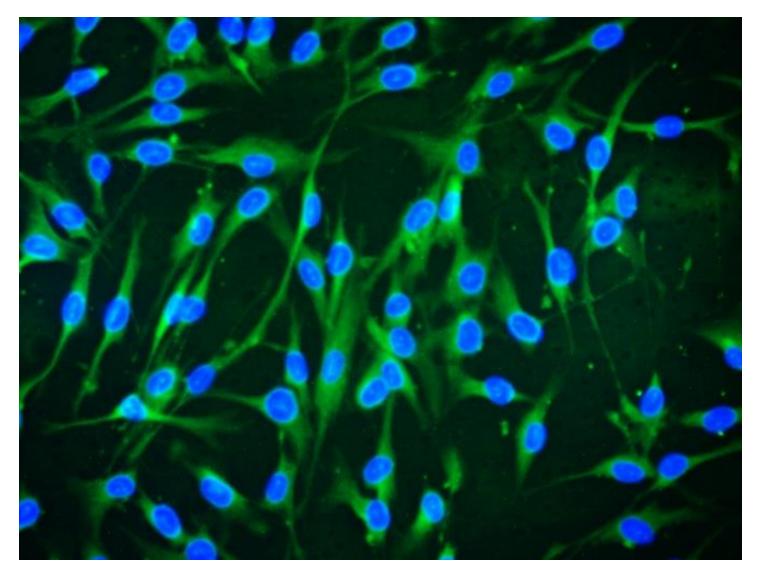






# Mesenchymal stem cells (human – bone marrow)





### MSC infusions



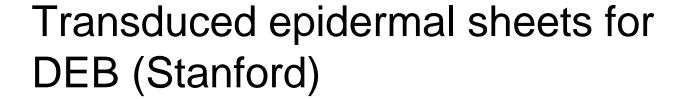
- Study to evaluate if donor MSCs can produce benefit in the skin of 10 children with RDEB 3 intravenous MSC infusions + 2 year follow up
  - Improvement in Quality of Life Score and Birmingham EB severity score (BEBSS)
    [decease in mean parent-reported pain score, disease severity, total body surface
    area affected]
  - Telephone interviews at 9 months revealed subjective reports of better wound healing in all 10 children and less skin redness in 9/10; clinical benefit lasted around 4-6 months. Better sleep and improved family life was reported







- Follows successful and informative studies EBSTEM (published) and ADSTEM (ongoing) which looked at MSCs in children and adults
  - Positive effect seen in itch
- This study will
  - Add to the safety and efficacy data (increasing patient numbers) for MSCs vital for the regulatory environment
  - Importantly continue the use of MSCs in the clinical setting
  - Group of patients treated over 3 years





#### Phase I Clinical trial in 4 adult males

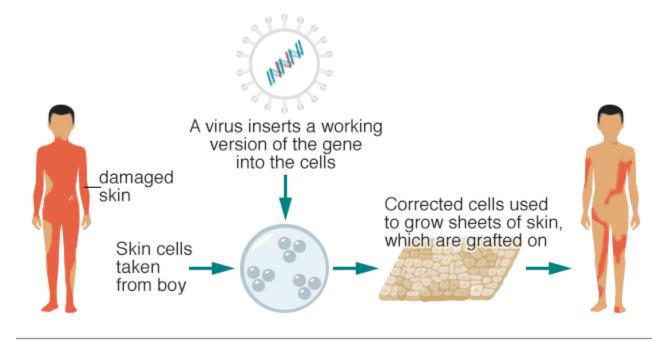
- 6 wounds per patient
- 24 wounds total
- Safety evaluation
- Efficacy
  - Wound healing
  - Itch/Pain
  - Biopsy for collagen 7



Results: 21 out of 24 wounds healed after 6 months

### German boy Skin Graft



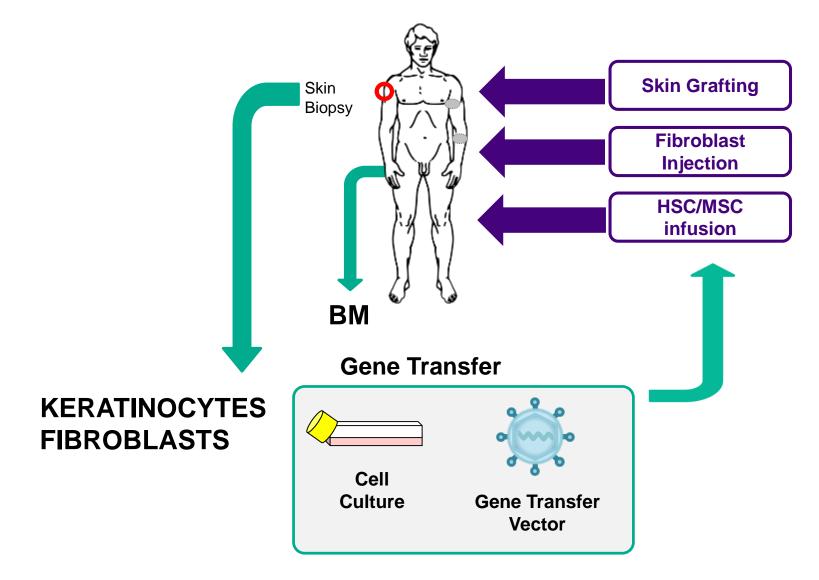


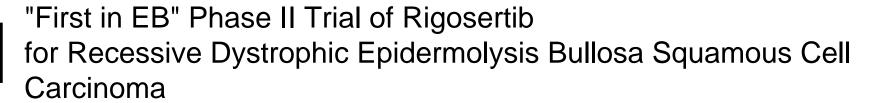
Source: Nature



### • The future...?









- Test of a new drug in development
- Clinical study in a small number of patients
- Scientific research on samples from the patients
- \$557,842 [£377,508]
- Up to 60 months

### Funding DI activities about £200k each year

- Staffing support
- DI Research conference and Clinet 2019 -London
- Matched funding for
  - Registry
  - web site development
  - clinical best practice
  - clinical fellow (Robin Eady memorial)