



nature publishing group



► **COVER:** 'Up, up and away!' by Kirsten Lee, inspired by the review on p251.



CLAUDIA WIEDEMANN



KATHERINE WHALLEY



LEONIE WELBERG



MONICA HOYOS FLIGHT

Ethical considerations aside, do the animal models that are currently used in neuroscience research truly reflect the human physiological or pathological events that they are intended to mimic? How can such models be improved and help to develop better strategies to protect the vulnerable and combat disease?

The usefulness of animal models of complex conditions, such as pain, has been questioned because the translation of findings from these models to the clinic has so far been limited. In the Review on page 283, Jeffrey Mogil outlines current behavioural animal models of pain, discusses their validity by reflecting on their limitations and the behavioural complexity of pain, and outlines strategies for selecting appropriate subjects, assays and measures in order to develop improved models.

Animal models are also used to study the effects of prenatal drug exposure on neural development. In a Science and Society article on page 303, Levitt and colleagues consider findings in animal models and humans for a selection of drugs and show that current perceptions of the relative dangers to the fetus of illegal versus legal drugs may not be accurate. With this in mind, they call for a closer working relationship between scientists, policy makers and the media to inform the public about the consequences of illegal and legal drug use on fetal brain development and to shape policy decisions.

Assessing existing animal models on a regular basis and improving their validity will equip scientists with better tools to study disorders. Understanding pathophysiological patterns will in turn lead to improved treatment strategies, to a better public understanding of specific disorders and potentially to a call for a reform of policies.

EDITORIAL OFFICES

LONDON NatureReviews@nature.com
The Macmillan Building, 4 Crinan Street,
London N1 9XW, UK
Tel: +44 (0)20 7843 3620;
Fax: +44 (0)20 7843 3629
CHIEF EDITOR: Claudia Wiedemann
SENIOR EDITOR: Katherine Whalley
ASSOCIATE EDITORS: Leonie Welberg,
Monica Hoyos Flight
SENIOR COPY EDITOR (NRN): Craig Nicholson
SENIOR COPY EDITORS: Isobel Barry,
Man Tsuey Tse, Gillian Young
ART EDITOR: Kirsten Lee
ART CONTROLLER: Susanne Harris
SENIOR ART EDITORS: Vicky Summersby,
Patrick Morgan
MANAGING PRODUCTION EDITOR:
Judith Shadwell
SENIOR PRODUCTION EDITOR:
Simon Fenwick
PRODUCTION CONTROLLER:
Natalie Smith

SENIOR EDITORIAL ASSISTANT: Laura Firman
EDITORIAL ASSISTANT: Jacques Smit
WEB PRODUCTION MANAGER:
Deborah Anthony
MARKETING MANAGERS: Tim Redding,
Leah Rodriguez

MANAGEMENT OFFICES

LONDON nature@nature.com
The Macmillan Building, 4 Crinan Street,
London N1 9XW, UK
Tel: +44 (0)20 7833 4000;
Fax: +44 (0)20 7843 4596/7
OFFICE MANAGER: Kiersty Darnell
PUBLISHER: Stephanie Diment
MANAGING DIRECTOR: Steven Inchcoombe
EDITOR-IN-CHIEF, NATURE PUBLICATIONS:
Philip Campbell
ASSOCIATE DIRECTORS:
Jenny Henderson, Tony Rudland
EDITORIAL PRODUCTION DIRECTOR:
James McQuat
PRODUCTION DIRECTOR: Yvonne Strong

DIRECTOR, WEB PUBLISHING: Timo Hannay

HEAD OF WEB PRODUCTION:

Alexander Thurrell

NATUREJOBS PUBLISHER: Della Sar

NEW YORK nature@natureny.com

Nature Publishing Group,
75 Varick Street, 9th floor, New York,
NY 10013-1917, USA

Tel: +1 212 726 9200;

Fax: +1 212 696 9006

CHIEF TECHNOLOGY OFFICER:

Howard Ratner

HEAD OF INTERNAL SYSTEMS DEVELOPMENT:

Anthony Barrera

HEAD OF SOFTWARE SERVICES:

Luigi Squillante

HEAD OF GLOBAL ADVERTISING, SALES AND

SPONSORSHIP: Dean Sanderson

HEAD OF NATURE RESEARCH & REVIEWS

MARKETING: Sara Girard

BUSINESS DEVELOPMENT EXECUTIVE:

David Bagshaw

TOKYO nature@natureasia.com

Chiyoda Building 5F, 2-37-1 Ichigayatamachi,
Shinjuku-ku, Tokyo 162-0843, Japan
Tel: +81 3 3267 8751; Fax: +81 3 3267 8746

ASIA-PACIFIC PUBLISHER: Antoine E Bocquet

MANAGER: Koichi Nakamura

ASIA-PACIFIC SALES DIRECTOR:

Kate Yoneyama

SENIOR MARKETING MANAGER:

Peter Yoshihara

MARKETING/PRODUCTION MANAGER:

Takesh Murakami

INDIA 5A/12 Ansari Road, Daryaganj,

New Delhi 110 002, India

Tel/Fax: +91 11 2324 4186

SALES AND MARKETING MANAGER, INDIA:

Harpal Singh Gill

Copyright © 2009 Nature Publishing Group

Research Highlight images courtesy of

Getty Images unless otherwise credited.

Printed in Wales by Cambrian Printers

on acid-free paper