



ZonMw program

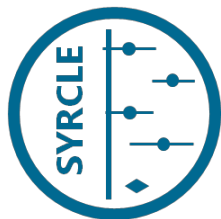
More Knowledge with Fewer Animals

Synthesis of evidence workshops

SYRCLE's education and coaching

Merel Ritskes-Hoitinga, Rob de Vries, Erica van Oort

NHMRC REWARD conference, November 2018, Sydney



Systematic
Rever
Centre for
Laboratory animal
Experimentation



ZonMw

Radboudumc

SYRCLE – founded 2012

Systematic Review Centre for Laboratory animal Experimentation



Training - Research – Implementation

*Systematic Reviews (SR) is one of the methods of
Synthesis of Evidence (SE)*

www.syracle.nl

Dutch politics support SE (SR)

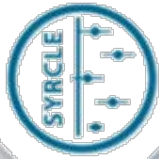
02-2012 .. The government is requested to make systematic reviews the norm for animal studies too

2014 .. SR of animal studies ***obligatory part*** of FELASA cat. C courses in laboratory animal science



Funding

Year	Title	Amount	Organisation
2010	Setting up SR locally	200 k€	License holder RU
2012-2015	6 national workshops and coaching in Nijmegen	270k€	ZonMw I
2012-2014	SR tools and guidelines	130k€	Ministry
2015-2018	National workshops and coaching at location	380 k€	ZonMw II
2015	E-learning module	70k€	Ministry
2016-2017	Translational success factors	105k€	NWO
2015-2018	Workshops and coaching RU	200k€	Reinier Post
2016-2018	EFSA workshops	320k€	EFSA tender
2018-2021	National workshops and coaching at location	380 k€	ZonMw III



Systematic Reviews of Animal Studies



START



<https://syrcle.ekphost.nl>

Registration code: syrcle

Radboudumc

Awareness & skills

- Resistance, partly because of lack of knowledge of concept and advantages SRs
- High-quality SRs require the involvement of experts with methodological knowledge and skills
- ZonMw program requires hiring SYRCLE for workshops and coaching to guarantee quality
- One day workshops with theory and hands-on of all the steps

One-day workshop programme

Time Activity

09:05	Lecture: Introduction to systematic reviews of animal studies
09:45	Introductory lecture: Identify 'all' relevant animal studies
10:00	Computer practical: Develop comprehensive search strategies
11:00	Practical: Inclusion / exclusion of studies
11:15	Break
11:30	Group discussion: Extract study characteristics

One-day workshop programme

- 11:55 Introductory lecture: Criteria of study validity
- 12:30 Lunch
- 13:30 Workshop assignment: Risk of bias assessment
- 14:00 Introductory lecture: Data extraction and meta-analysis
- 15:00 Break
- 15:15 Computer practical: Meta-analysis
- 16:30 Closure and evaluation



One-day workshops

- Goals: thoroughly familiar with concept and steps + basic skills to start own SR with coaching
- Maximum of 20 participants – 2 SYRCLE trainers
- Both in the Netherlands and abroad: Belgium, Norway, Denmark, Sweden, Switzerland (tour), Germany, UK, Spain, Italy, Brazil
- Comment of a participant: good combination of theory and practical exercises



Coaching

- Partly education, partly research
- SR process too complex for participants to be able to conduct SR independently after workshop/course
- We support and provide feedback on all steps of the SR: from protocol to manuscript. Tools and guidelines available
- On average 40-50 hours coaching per SR
- SR completion takes 3 months to 1,5 years; results in good publications, cited well
- ZonMw pays support by SYRCLE to guarantee good quality

www.nature.com/scientificreports
SCIENTIFIC REPORTS

OPEN A combined pre-clinical meta-analysis and randomized confirmatory trial approach to improve data validity for therapeutic target validation

Received: 08 February 2015
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Published: 27 August 2015

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Number of workshops / participants

Period	Programme	Nrs and location
2012-2015	ZonMw I	6 / ~ 120 Nijmegen
2015-2018	ZonMw II	10 / ~ 200 Amsterdam, Utrecht, Groningen, Leiden, Maastricht
2018-2021	ZonMw III	Not started

Positive feedback participants

- “Great workshop, very efficient and to the point. Made me even more excited about starting my systematic review. Gained immediately applicable knowledge in an effective time frame.”
- “The workshop is great and gives a really good idea how to do a SR and MA, as it also gives information about how to be critical in this kind of work and how to evaluate scientific work that has been done nowadays.”
- “I would recommend the course to others, not least senior scientists like myself. Old dogs can learn new tricks.”
- “Very useful for researchers working with animal models, should allow to save a lot of time for me!”

Output spring 2018

Project	Nrs. SR started	Nrs. completed
ZonMw I	31	26
ZonMw II	24	2
Reinier Post	10	2
Other	3	2
SYRCLE	15	10

Citations (Web of Science 6 Nov '18)

- Wever KE, PloS One 2012 92
- Hooijmans CR PloS One 2012 30
- Hooijmans CR J Alzheimers disease 2012 68
- Yauw STK, Brit J Surgery 2015 7
- Van Drongelen J Am J Physiol 2012 14

- SYRCLE's Risk of Bias tool 187

SRs lead to

- A more evidence-based choice of animal models
 - van Drongelen, Am J Physiol Heart Circ Physiol 2012
 - De Vries RB, Tissue Engineering Part B 2012
 - Sloff M, PloSOne 2014
 - Zeeff SB, Inflammatory Bowel Dis 2016

} Better translation large animal models
- More translational transparency
 - Hooijmans CR, PloSOne 2012
 - Vesterinen HM, Mult Scler 2010
 - Howells DW, Int J Stroke 2012
- Making reporting quality transparant
- 3R Implementation

Advantages SE/SR

- Interdisciplinary team action in order to write meaningful SRs
- Proces is rewarding in itself, creating transparency, awareness and overview
- Involving patients
- Unfortunate benefit: quality of reporting is low, translation is low
- Medical field: “after an SR, all future steps in research will be done differently”



Investigator brochures (IB) lack important information on animal studies

Wieschowski PloSBiol 2018:

- 109 recent IB's with 708 preclinical efficacy studies
- 89% not published / peer-reviewed
- Reporting of sample size in 26%, 0% blinding, 4% randomization, 27% gave experimental specifications
- 82% of IB's only reported studies with positive effects
- Most IB's did **not** allow a systematic appraisal of the strength of supporting preclinical findings



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SR CAN REALLY HELP



Poster on Funder Forum guiding principles for preclinical research

The guiding principles of the Ensuring Value in Research Funder's Forum can also ensure value in preclinical research

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Conclusions

- Education and coaching works
- Number of (high quality) SRs has increased
- Face-to-face education most suitable for skills
- More ambassadors, teachers and funding needed

More information: www.syrcl.nl (Training and education)