

Guidelines and Screening Methods of Pharmacology

An Essential Guide To Pharmacy and
Life Sciences Research Scholars

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by Surendra H. Bodakhe, Parag Jain, Arin Bhattacharya, Jaya Shree and Amrita Singh

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PREFACE

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Chapter 1

Regulations for Laboratory Animals Care and Ethical Requirements

1.1 Introduction

Animal ethics includes all the specifications required to treat animal in a generous way and it ensures that minimum pain should be given to them. In 1959, William Russell and Rex Burch gave; the 3R's principles (based on reduction, refinement and replacement of animals) of Humane Experimental Technique, the scientific excellence and humane use of laboratory animals.

- **Reduction:** Use less number of animals, different group of animals can be combined together with colleagues and thus results can be obtained from less number of animals.
- **Refinement:** Use techniques to decrease pain/suffering, alteration in frequency and volume of dose, improvement of animal well-being.
- **Replacement:** Use techniques that substitute organisms with isolated organs, microorganisms, invertebrates, and sometimes mathematics and computer models.
- Previously, it was 3R's principles but now one more principle is added and it is known as 4R's principles "reuse".
- **Reuse:** Resuse of same animals in other experiments after approval from competent authority like Institutional Animal Ethics Committee (IAEC).

1.2 Committee for the Purpose of Control and Supervision of Experiments on Animals (CPCSEA)

A committee is shaped with the main aim to explore all such requirement that may be essential to guarantee that animals are not given any kind of pain before, during or after the experiment known as Committee for the