

RECRUITING AND TRAINING PHYSICIANS-SCIENTISTS TO EMPOWER TRANSLATIONAL RESEARCH
A MULTILEVEL TRANSDISCIPLINARY APPROACH
FOCUSSED ON METHODOLOGY, ETHICS AND INTEGRITY IN BIOMEDICAL RESEARCH



RESEARCH TRAINING PROGRAM

I. General Information

Title of the research project:

Impact of Mechanical Ventilation on Postoperative outcomes in Cardio-Surgical ICU's patients

Name and address of the department:

SC Anestesia e Rianimazione Cardiologica, Ospedale di Circolo, ASST Sette Laghi, Via Guicciardini 9, Varese

Student's supervisor:

Paolo Severgnini

II. Description of the project

Background

Cardiac surgery frequently entails postoperative mechanical ventilation in the ICU. Postoperative pulmonary dysfunction is a common complication in this setting.

The protective ventilation strategies have been shown to mitigate postoperative respiratory complications, potentially lessening MV duration and reintubation rates. Furthermore, early extubation has been consistently associated with better outcomes.

What is the aim of the project?

To evaluate how Mechanical Ventilation affects postoperative outcomes in patients admitted to Cardio-Surgical ICU.

When did the department start working on this project? 2 (year)

Type of research project:

☐ Basic science ☒ Clinical research without lab work ☐ Clinical research with lab work

III. Student's involvement

The student will mainly observe	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
The student will observe the experiments but will be involved in data analysis	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
The student will take active part in experiments ("lab work")	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
The student will take active part in clinical examination (clinical research)	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
The student will be allowed to work with patients	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO

What are the tasks expected to be accomplished by the student?

The student will take part in patient care management and take an active role in collecting, analyzing, and interpreting the data.

What is expected from/what will be the general outcome of the student?

☒ To prepare a poster / presentation / scientific report / abstract

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- ☒ The student's name will be mentioned in a future publication
☒ Opportunity to present together with the supervisor the results on a conference
☐ No specific outcome is expected

IV. Requirements

What skills are required from the student?

Is there any special knowledge or a certain level of studies needed?

☒ Subjects passed:

- Medical Pathology
- Surgical Pathology
- Pharmacology

☐ Previous experience with:

☐ Certificate of:

☒ None

Are there any legal limitatons in the student's involvement in the project? ☐ YES ☒ NO
If yes, what are the limitations?

For the use of students considering participating in the project, further information can be found from the following references:

1. Schultz M.J., Hemmes S.N.T., de Abreu M.G., Pelosi P., Severgnini P., Hollmann M.W., Binnekade J.M., Wrigge H., Canet J., Hiesmayr M., Schmid W., Jaber S., Hedenstierna G., Putensen C. (2014). High versus low positive end-expiratory pressure during general anaesthesia for open abdominal surgery (PROVHILO trial): A multicentre randomised controlled trial. *Lancet*, 384 (9942), 495-503.
2. Gldner A., Kiss T., Serpa Neto A., Hemmes S.N.T., Canet J., Spieth P.M., Rocco P.R.M., Schultz M.J., Pelosi P., Gama De Abreu M. (2015). Intraoperative protective mechanical ventilation for prevention of postoperative pulmonary complications: A comprehensive review of the role of tidal volume, positive end-expiratory pressure, and lung recruitment maneuvers. *Anesthesiology*, 123 (3), 692 - 713
3. Miskovic A., Lumb A.B. (2017). Postoperative pulmonary complications. *British Journal of Anaesthesia*, 118 (3), 317 - 334.
4. Bernardi M.H., Bettex D., Buiteman-Kruizinga L.A., de Bie A., Hoffmann M., de Kleijn J., Serafini S.C., Molenaar M.A., Paulus F., Peršec J., Neto A.S., Schuepbach R., Severgnini P., Šribar A., Schultz M.J., Tschernko E. (2024). POSToperative INTELLiVENT-adaptive support VEntilation in cardiac surgery patients (POSITIVE) II—study protocol of a randomized clinical trial. *BioMed Central Ltd*, 25(1), 449.

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Schedule

Duration of the project:

☐ 1 month ☐ 2 months ☒ 9 months

There are approximately 6 hours of work per day.

Available months:

January	<input checked="" type="checkbox"/> February	<input checked="" type="checkbox"/> March	<input checked="" type="checkbox"/> April	<input checked="" type="checkbox"/> May	<input checked="" type="checkbox"/> June
<input checked="" type="checkbox"/> July	<input checked="" type="checkbox"/> August	<input checked="" type="checkbox"/> September	<input checked="" type="checkbox"/> October	<input checked="" type="checkbox"/> November	<input checked="" type="checkbox"/> December

How many students can you accept to the project at the same time? 3

Special remarks:

(e.g., students should bring a stethoscope and a white coat, any vaccinations required, etc.)

NOTE: a scientific report is required at the end of the program

Ospedale di Circolo e Fond. Macchi Varese
S.C. ANESTESIA E RIANIMAZIONE
CARDIOLOGICA
Il Dirigente Medico Responsabile
PROF. PAOLO SEVERGNINI
Cod. Fisc. SVR PLA 64T23 L682L



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V. Schedule

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