Send all pages to fax +49 89 92185817 or by email: registry@alung.com

I. HOSPITAL & PHYSICIAN

Hospital name: _____

Type of ICU: ◯ Medical ◯ Interdisciplinary ◯ Surgical ◯ Other

City: _____ Country: _____

Physician name: _____ _____
first *last*

II. PATIENT DEMOGRAPHICS

Gender: ◯ Male ◯ Female

Age: _____ years Height: _____ cm Weight: _____ kg

III. DIAGNOSIS, COMORBIDITIES, AND INDICATIONS

DIAGNOSIS: *(select one from ARDS, COPD, or Other)*

◯ ARDS

Cause: *(select all that apply)*

- ☐ Aspiration pneumonia
- ☐ Blood transfusions
- ☐ Community-acquired pneumonia
- ☐ Drug reaction
- ☐ Lung contusion
- ☐ Near-drowning
- ☐ Sepsis
- ☐ Toxic inhalation
- ☐ Ventilator-associated pneumonia
- ☐ Viral pneumonia
- ☐ Other: _____ *describe*

◯ COPD Exacerbation

GOLD Grade: ◯ 1 ◯ 2 ◯ 3 ◯ 4

If spirometry is available:

Recent FEV1 % predicted: _____ %

FEV1/FVC: _____ %

◯ Other respiratory failure: _____ *describe*

COMORBIDITIES: *(select all that apply)*

- ☐ Cachexia
- ☐ Cancer
- ☐ Cirrhosis of Liver
- ☐ Congestive Heart Failure
- ☐ COPD
- ☐ Coronary Artery Disease
- ☐ Current Corticosteroid Treatment
- ☐ Diabetes
- ☐ HIV Infection
- ☐ Obesity
- ☐ Obstructive Sleep Apnea
- ☐ Pulmonary Hypertension
- ☐ Renal Failure
- ☐ Systemic Hypertension
- ☐ Other: _____ *describe*

INDICATION FOR USE OF THE HEMOLUNG: *(select one)*

- ◯ Failure/Intolerance of noninvasive ventilation (NIV)
- ◯ Enable lung protective invasive mechanical ventilation (IMV)
- ◯ Other: _____ *describe*

IV. ICU ADMISSION

ICU Admission date: _____ *dd/mm/yyyy*

Pre-Hemolung Ventilatory Support:

What type of ventilation has patient received in this ICU stay prior to Hemolung initiation?

☐ Non-invasive ventilation (NIV) Start Date: _____ *dd/mm/yyyy* Time: _____ *HH:MM*

☐ Invasive mechanical ventilation (IMV) Start Date: _____ *dd/mm/yyyy* Time: _____ *HH:MM*

Was patient on other extracorporeal lung support prior to Hemolung? *(select one)*

○ No ○ vv-ECMO ○ va-ECMO ○ vv-ECCO$_2$R ○ av-ECCO$_2$R

V. HEMOLUNG THERAPY COURSE

Hemolung Start Date: _____ *dd/mm/yyyy* Time: _____ *HH:MM*

Hemolung Stop Date: _____ *dd/mm/yyyy* Time: _____ *HH:MM*

Parameter	Units or Description of Parameter *(select unit)*	Pre-Hemolung (worst in last 6 hours pre-Hemolung)	6 Hours on Hemolung	24 Hours on Hemolung
Date	dd/mm/yyyy			
Time	HH:MM			
Vent type *(select one)*		○ NIV ○ IMV ○ None	○ NIV ○ IMV ○ None	○ NIV ○ IMV ○ None
Vent mode	see Legend*			
Rate/Frequency	○ 1/min ○ Hz			
FiO_2	%			
V_T actual	mL			
MV	L/min			
PIP or Ampl or IPAP	○ cmH_2O ○ mbar			
PEEP or EPAP or CPAP	○ cmH_2O ○ mbar			
P_{mean}	○ cmH_2O ○ mbar			
P_{plat}	○ cmH_2O ○ mbar			
pH				
$PaCO_2$	○ kPa ○ mmHg			
PaO_2	○ kPa ○ mmHg			
HCO_3	○ mmol/l ○ mEq/L			
SaO_2	%			
HL CO_2 removal	mL/min	—		
HL Sweep Gas Flow	L/min	—		
HL Blood Flow	mL/min	—		
HL Pump Speed	rpm	—		

**Legend*

NIV Modes: BiPAP, CPAP, PSV, PAV, Other

IMV Modes: VC-CMV, VC-AC, VC-SIMV, VC-MMV, PC-CMV, PC-AC, PC-SIMV, PC-BIPAP, PC-APRV, PC-PSV, PC-HFO, PC-MMV, SPN-CPAP/PS, SPN-CPAP/VS, SPN-PPS, SPN-CPAP, Other

V. HEMOLUNG THERAPY COURSE — CONTINUED

Catheter access site: *(select one)*
◯ Right jugular ◯ Left jugular ◯ Other _____ *describe*
◯ Right femoral ◯ Left femoral

Number of Hemolung Catheters used: _____

If more than one catheter was used, why? *(select all that apply)*
☐ Catheter-site infection ☐ Dislodgement ☐ Insufficient flow
☐ Clotting ☐ Extended therapy duration ☐ Kinking
☐ Device malfunction ☐ Insertion complication ☐ Patient vasculature
☐ Other, *describe* _____

Number of Hemolung Cartridges used: _____

If more than one Cartridge was used, why? *(select all that apply)*
☐ Clotting ☐ Extended therapy duration
☐ Device malfunction ☐ Reduced performance
☐ Other, *describe* _____

Mechanical complications while on Hemolung:
◯ Yes ◯ No
If Yes, select complications *(select all that apply)*
☐ Air in circuit ☐ Guidewire/Dilator problem
☐ Controller malfunction ☐ Clots in Cartridge
☐ Circuit leakage ☐ Clots in Catheter
☐ Catheter problem ☐ Clots in Tubing
☐ Other, *describe* _____

Patient complications while on Hemolung: *(select all that apply)*
◯ Yes ◯ No
If Yes, select complications *(select all that apply)*
☐ Catheter site bleeding (requiring transfusion or other intervention)
☐ Catheter dislodgment
☐ Catheter insertion complication
☐ Hemorrhage (requiring transfusion or other intervention)
☐ Heparin-induced thrombocytopenia (positive HIT antibody test results)
☐ Severe thrombocytopenia (platelet count below 50,000/mm^3 or platelet count < 100,000/mm^3 in conjunction with > 50% decrease from baseline)
☐ Significant hemolysis (plasma free hemoglobin >40 mg/dL or equivalent with other clinical signs)
☐ Disseminated Intravascular Coagulopathy (DIC)
☐ Hemodynamic instability
☐ Other, *describe* _____

Patient mobilization while on Hemolung: *(select all that apply)*
☐ Not mobilized ☐ Standing at bedside
☐ Hand or foot pedal ☐ Walking
☐ Sitting at edge of bed or in chair ☐ Other, *describe* _____

Adjunctive therapies while on Hemolung: *(select all that apply)*
☐ Proning
☐ CRRT
☐ Lung recruitment maneuvers

Total blood products used on Hemolung therapy: *(select all that apply)*
☐ None
☐ Red blood cells Number of units: _____
☐ Platelets Number of units: _____
☐ Fresh frozen plasma Number of units: _____
☐ Plasma Number of units: _____

Blood product usage related to: *(select all that apply)*
☐ Device
☐ Non-device / disease / other condition

Anticoagulation target range: *(select all that apply)*
☐ aPTT Target range: _____
☐ ACT Target range: _____
☐ Anti-Factor Xa Target range: _____
☐ Thromboelastography
☐ Other, *describe* _____ Target range: _____

Anticoagulants used: *(select all that apply)*
☐ UFH ☐ Acetyl Salicylic Acid ☐ LMWH
☐ Argatroban ☐ Other, *describe* _____

VI. OUTCOME

For all patients:

Reason for discontinuing Hemolung: *(select one)*

- ◯ Recovery
- ◯ Complication
- ◯ Transition to ECMO
- ◯ Died on Hemolung or Hemolung withdrawn in anticipation of death
- ◯ Other, *describe* _____

Patient outcome: *(select one)*

- ◯ Patient remains in ICU
- ◯ Patient discharged alive from ICU

  Date of discharge: _____ *dd/mm/yyyy*

  Discharge location: *(select one)*

  - ◯ Home
  - ◯ In-hospital unit or service
  - ◯ Referral hospital
  - ◯ Long-term facility
  - ◯ Other, *describe* _____

  Ventilatory support at discharge: *(select one)*

  - ◯ None
  - ◯ NIV
  - ◯ Nasal O_2
  - ◯ Nocturnal NIV
  - ◯ IMV (endotracheal tube or tracheostomy)

- ◯ Patient died in ICU

  Date of death: _____ *dd/mm/yyyy*

  Reason for death: *(select one)*

  - ◯ Withdrawal of life support
  - ◯ Hemorrhage
  - ◯ Irreversible organ failure *(select all that apply)*
    - ☐ CNS
    - ☐ Pulmonary
    - ☐ Cardiac
    - ☐ Liver
    - ☐ Infection
    - ☐ Other, *describe* _____
  - ◯ Other, *describe* _____

  Was death related to a complication of Hemolung therapy? *(select one)*

  - ◯ No (unrelated)
  - ◯ Probably related
  - ◯ Possibly related
  - ◯ Definitely related

For patients requiring IMV at any time while in ICU:

Was patient tracheostomized at any time prior to, during, or after Hemolung therapy?

- ◯ Yes — Date: _____ *dd/mm/yyyy*
- ◯ No

Was patient ever successfully weaned from IMV (off IMV > 48 hours) during this ICU stay?

- ◯ Yes — Date of final weaning: _____ *dd/mm/yyyy*
- ◯ No

Was NIV used to assist with weaning from IMV?

- ◯ Yes
- ◯ No
- ◯ Not applicable (patient not weaned)

VI. OUTCOME — CONTINUED

Physician notes about this case:

VII. OPTIONAL QUESTIONS

These are optional questions and are not part of the formal registry data collection.

What clinical benefits were achieved with Hemolung therapy in this case? *(select all that apply)*	☐ Intubation was avoided ☐ Protective ventilation was achieved ☐ Control of hypercapnia/acidosis ☐ IMV weaning was facilitated ☐ NIV weaning was facilitated ☐ Dyspnea improved ☐ Sedation, analgesics, or paralytics were reduced ☐ Patient was mobilized ☐ Patient was able to eat ☐ Patient was able to speak ☐ Other, *describe* _____
To what extent were your clinical goals realized with use of the Hemolung RAS? *(select one)*	○ I was able to fully realize my clinical goals ○ I was able to partially realize my clinical goals ○ I was unable to realize my clinical goals
To what extent did this patient benefit from $ECCO_2R$ with the Hemolung RAS? *(select one)*	○ Significant benefit was realized ○ Adequate benefit was realized ○ Limited benefit was realized ○ No benefit was realized ○ Negative benefit was realized
Overall, how satisfied were you with the use of the Hemolung RAS in this case? *(select one)*	○ Very satisfied ○ Satisfied ○ Somewhat satisfied ○ Not satisfied

If you were not satisfied with the Hemolung in this case or unable to realize your clinical goals, please explain:

By signing below, I agree that these data may be analyzed by ALung Technologies. I completed and processed this form.

Name: _____ Date completed: _____
first and last *dd/mm/yyyy*

Note: Please retain a copy of this form in the patient record.

Submit