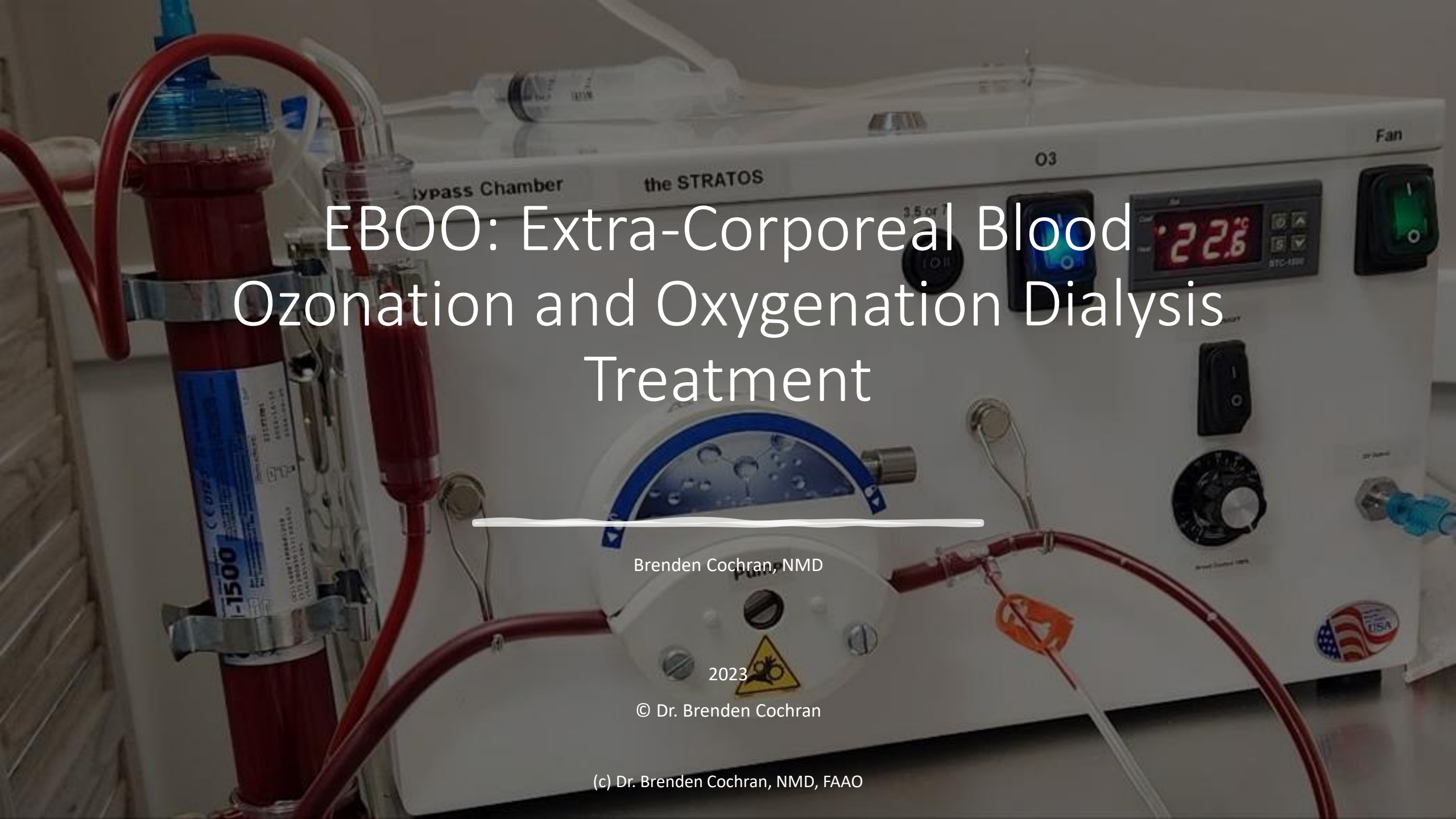

EBOO: Extra-Corporeal Blood Ozonation and Oxygenation Dialysis Treatment

Brenden Cochran, NMD

2023

© Dr. Brenden Cochran

(c) Dr. Brenden Cochran, NMD, FAAO

Many varieties of EBOO

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EBOO: the History

According to Dr. Bocci's book in Ch. 17, he first heard about methods to activate immune cells in cancer patients during extracorporeal circulation in blood.

1992 is when Dr. Bocci first started examining what role a dialysis like process would have help his terminal cancer patients.

It was then Dr. Bocci who sought out the Director of the Nephrology and Dialysis Unit, Prof. Nicola Di Paolo, to discuss the meaning and implications.
(Bocci et al., 1996b,2001c;Di Paolo et al., 2000)

Around that same time, other people around the world, in places such as Africa and Russia, began researching EBOO.

It took about a decade of laboratory, preclinical and preliminary clinical

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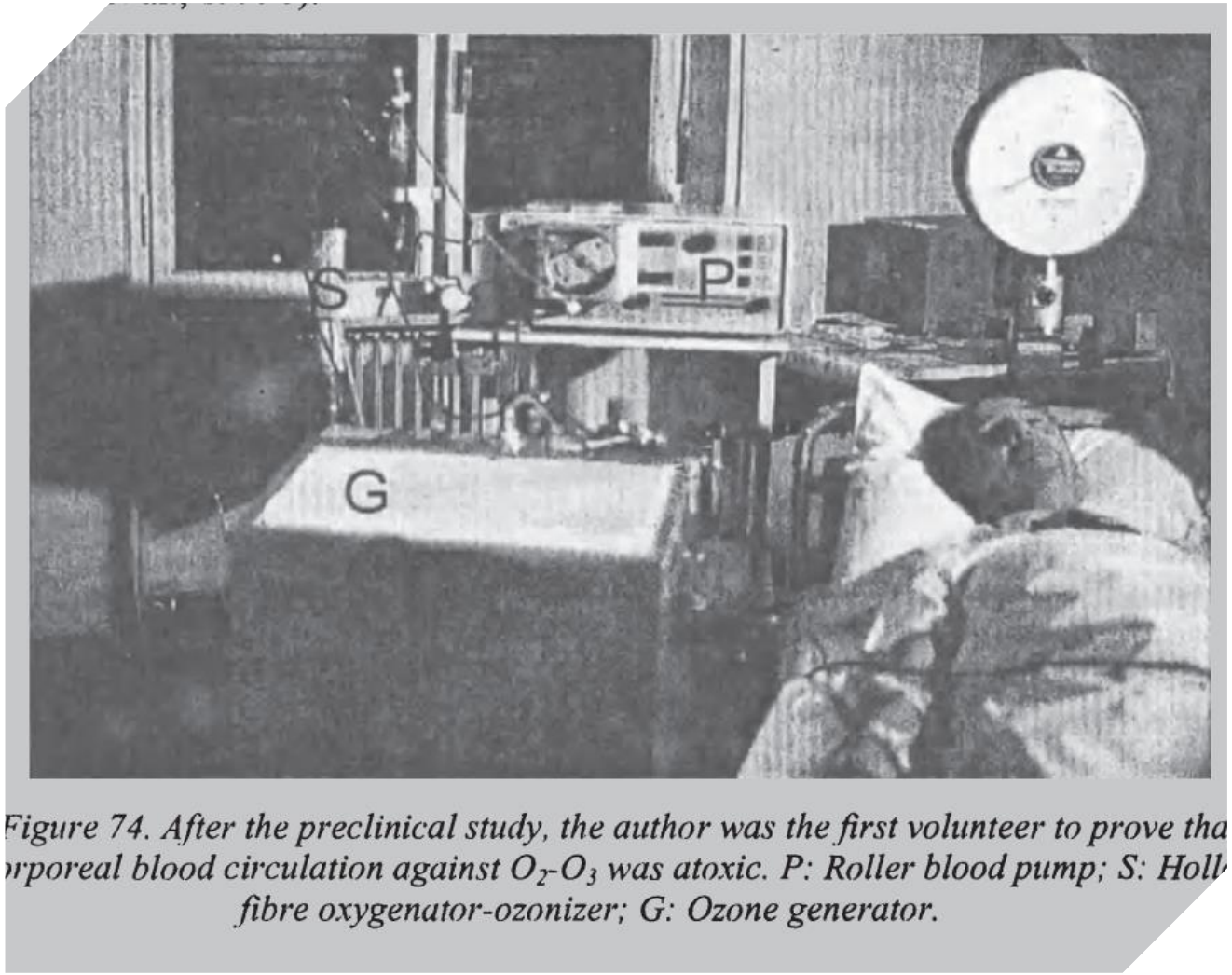

Figure 74. After the preclinical study, the author was the first volunteer to prove tha
orporeal blood circulation against O_2-O_3 was atoxic. P: Roller blood pump; S: Holl
fibre oxygenator-ozonizer; G: Ozone generator.

EBBO:
The History

- **In 1993 Dr. Bocci was the first to receive EBOO with ozone and It was carried out by Dr. Nicola Paolo**

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CHAPTER 17

EXTRACORPOREAL BLOOD CIRCULATION VERSUS O_2-O_3 (EBOO)

"Est quadam prodire tenus, si non datur ultra"
Horace (65-8 B.C.), Epist., 1, 1, 32
(At least we have done a first step)

1) after several phases, the final EBOO system is shown in Figure 72. It consists of a precise ozone generator, fed by therapeutic oxygen on line, able to deliver a constant flow of the gas mixture (~ 99% O_2- ~ 1% O_3) for hours. We have assessed biochemical parameters and toxicity using O_3 concentrations from 3 to 80 µg/ml, but now we routinely use 4 µg/ml throughout the session. The O_3 concentration is continuously monitored by photometry and visualized in real time. We periodically check the photometry by iodometric titration.

EBOO: the History

For next few years they started a pilot study (Di Paolo et al., 2000) During this trial they were searching for the optimal O3 concentration. Overall, those treated showed very great improvement that lasted several months. He concluded to maintain the improvement, the treatment should be resumed after 3-6 months

coated oxygenator and by June 2001 the number of patients had grown to 21. Thus we were able to draw some conclusions:

a) the extracorporeal circulation of blood against O_2-O_3 has become a reality;
b) all the technical and methodological aspects have been resolved satisfactorily;
c) owing to the improved efficiency of the oxygenator, up to 5 L of blood can be exposed to very low O_3 concentrations (3-4 µg/ml). To enhance ozone tolerance the first and second EBOOs last only 30 and 45 min, respectively;
d) as occurs in the pulmonary circulation, the great efficiency of the hollow fibres allows total gas exchange in one minute;
e) both oxygenation and ozonization remain effective without any increase of venous pressure;
f) in arteriopathic patients (grade III and IV) subjective and objective clinical improvements have often been noted after the first treatment. Orthodox treatments usually do not provide such improvement;
g) neither metabolic derangement nor changes in blood chemistry nor any toxic effect has been observed during or months after the cycle;

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History of modern version of the Ozone Generator

In early year of 2000, doctors in Malaysia first learned about ozone therapy From 2002 - 2020, the Malaysians continued to build EBOO machines. Simultaneously, in Ukraine they were developing their own versions, without the dialyzer.

EBOO modality efficacy widely spread in neighbouring countries and demand increased from Philippines, Indonesia and Myanmar.

The original EBOO machines were quite bulky and very heavy.

Smaller portable units expanded widely to many overseas countries such as Mexico, Africa, China, Japan, Thailand, Singapore and the Dominican Republic.

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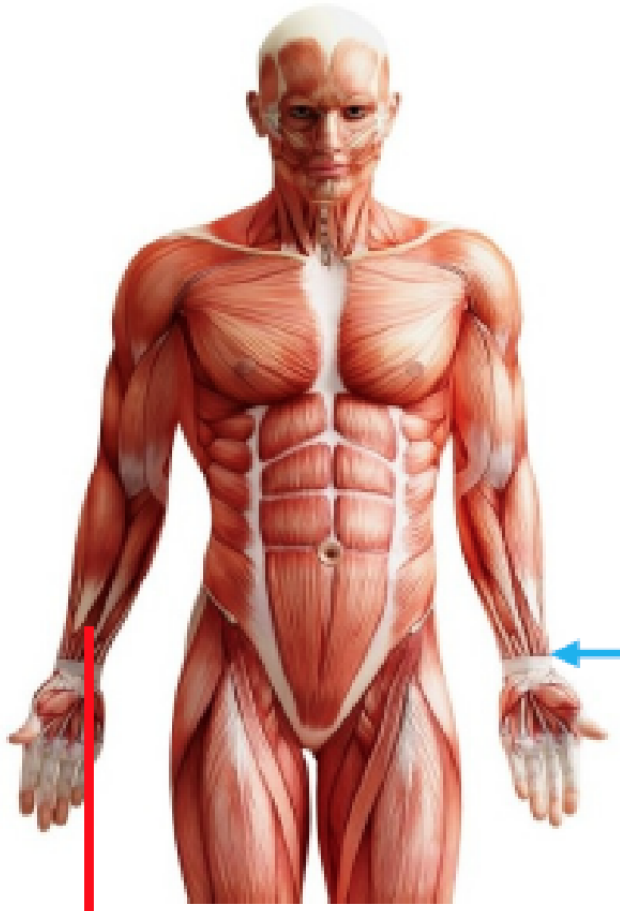
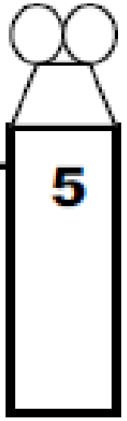
THE STRATOS EBOO /F

EXTRACORPOREAL
BLOOD
OXYGENATION,
OZONATION &
FILTRATION

(c) Dr. Brenden Cochran, NMD, FAAO





6

8

7

4

9

3

1

2

INFLOW (OZONISED)

OUTFLOW

1- SOLUTION

2- PUMP

3 – WASTE CANISTER

4- DIALYZER

5-MEDICAL OXYGEN

6- MEDICAL GRADE OZONE GENERATOR

7- BYPASS CHAMBER

8- SYRINGE(VACUM)

9. DESTRUCTOR

Claims

- Purify the blood
- Kill infections in the blood
- The material in the waste container is toxins pulled out
- Miracle cure
- Reduce Beta 2 Microglobulin (inflammatory)

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ABS plastic	B - Good
Acetal (Delrin®)	C - Fair
Aluminum	A - Excellent
Brass	B - Good
Bronze	B - Good
Buna N (Nitrile)	D - Poor
Carbon Steel	C - Fair
Cast iron	C - Fair
Ceramic	A - Excellent
ChemRaz (FFKM)	B - Good
Copper	A - Excellent
CPVC	A - Excellent
EPDM	B - Good
Fluorocarbon (FKM)	A - Excellent
Hastelloy-C®	A - Excellent
HDPE	B - Good
Hypalon®	A - Excellent
Hytrel®	C - Fair
Kalrez	A - Excellent
Kel-F®	A - Excellent
LDPE	C - Fair
Natural rubber	D - Poor
Neoprene	C - Fair
NORYL®	B - Good
Nylon	D - Poor
Polycarbonate	A - Excellent
Polyetherether Ketone (PEEK)	A - Excellent
Polyethylene	B - Good
Polypropylene	B - Good
Polyurethane	A - Excellent
PTFE	A - Excellent
PVC	B - Good
PVDF (Kynar®)	A - Excellent
Silicone	A - Excellent
stainless steel - 304	B - Good
stainless steel - 316	A - Excellent
Titanium	A - Excellent
Tygon®	B - Good
Viton®	A - Excellent

https://www.oxidationtech.com/ozone_resistant_materials

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Polysulfone Chemical Compatibility Chart

ver 04-Feb-2018

Chemical	Rating
N-butyl acetate	X
N-butyl alcohol[3,4]	B
N-decane[3,4]	B
N-Heptane[1]	A
N-methyl-2-pyrrolidone	X
NALCON 7330 (<1%)	A
NALCON 7647 (<1%)	A
NALCON 7678 (<1%)	A
Naphtha VMOP	X
Naphthalene, vapor	X
Nitric acid, 5%[3,4]	B
Nitric acid, 10%[3,4]	B
Nitric acid, 20%[3,4]	B
Nitric acid, 25%[3,4]	B
Nitric acid, 40%[3,4]	B
Nitric acid, 50%[3,4]	B
Nitric acid, 71%	X
Nitric acid, 6N	X
Nitro Methane	X
Nitrobenzene	X
Nitrobenzene	X
Nitromethane	X
Nitropropane	X
N-octane[3,4]	B
O-dichlorobenzene	X
Oil (ASTM #1)	A
Oil (ASTM #2)	A

Chemical	Rating
Oil (ASTM #3)[2]	A
Oil, cedarwood[2,3]	B
Oil, cinnamon[2,3]	B
Oil, corn[2]	A
Oil, mineral[1]	A
Oil, olive[3]	A
Oil, orange[2,3]	B
Oil, pine[2,3]	B
Oil, vegetable[2]	A
Oleic acid[2]	A
Olive oil[3]	A
Orange oil[2,3]	B
Oxalic acid, 10%	A
Oxalic acid, 20%	A
Oxygen	A
Ozone	A
Ozone, pure	A
P-chloroacetophenone	X
P-dichlorobenzene	X
Peanut oil[2]	A
Pentane	A
Peracetic acid, 0.1N	A
Perchloric acid	X
Perchloroethylene	X
Permatex[2]	A
Petroleum[2,3]	X
Petroleum based oils	A

A = Little or no interaction B = Slight interaction X = Not recommended Room temperature = 20°C or 68°F
(1) Elevated temperatures may reduce resistance — (2) Exposure to elevated stress may damage polymer
(3) Prolonged exposure may reduce resistance — (4) Room Temperature only

It is the sole responsibility of the system designer and user to select products suitable for their specific application requirements and to ensure proper installation, operation, and maintenance of these products. Material compatibility, product ratings and application details should be considered in the selection. Improper selection or use of products described herein can cause personal injury or product damage.

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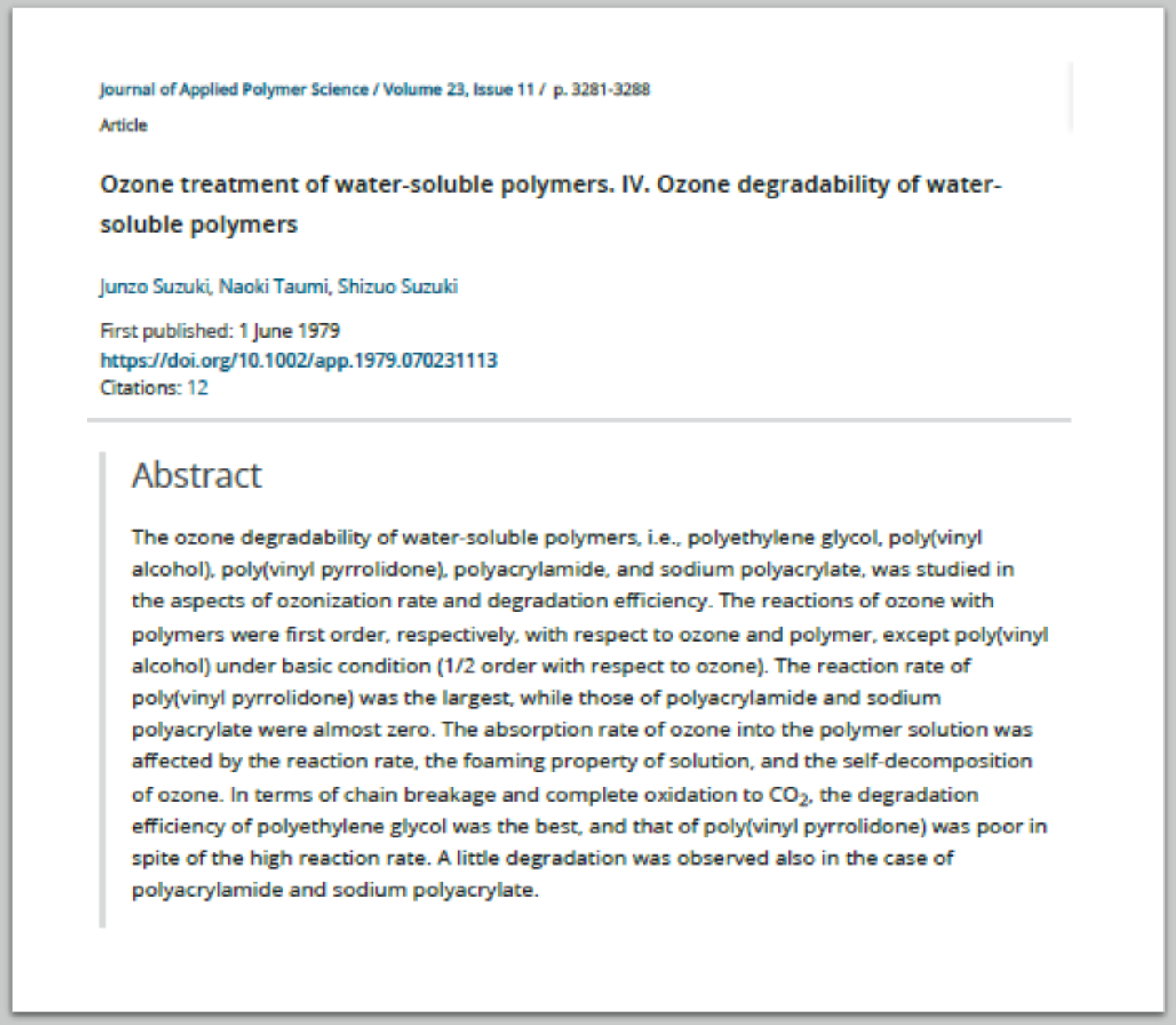
Polymer and Ozone

- https://polymerdatabase.com/polymer%20chemistry/Ozone.html
- https://onlinelibrary.wiley.com/doi/10.1002/app.1979.070231113



Journal of Applied Polymer Science / Volume 23, Issue 11 / p. 3281-3288

Article

Ozone treatment of water-soluble polymers. IV. Ozone degradability of water-soluble polymers

Junzo Suzuki, Naoki Taumi, Shizuo Suzuki

First published: 1 June 1979
https://doi.org/10.1002/app.1979.070231113
Citations: 12

Abstract

The ozone degradability of water-soluble polymers, i.e., polyethylene glycol, poly(vinyl alcohol), poly(vinyl pyrrolidone), polyacrylamide, and sodium polyacrylate, was studied in the aspects of ozonization rate and degradation efficiency. The reactions of ozone with polymers were first order, respectively, with respect to ozone and polymer, except poly(vinyl alcohol) under basic condition (1/2 order with respect to ozone). The reaction rate of poly(vinyl pyrrolidone) was the largest, while those of polyacrylamide and sodium polyacrylate were almost zero. The absorption rate of ozone into the polymer solution was affected by the reaction rate, the foaming property of solution, and the self-decomposition of ozone. In terms of chain breakage and complete oxidation to CO_2, the degradation efficiency of polyethylene glycol was the best, and that of poly(vinyl pyrrolidone) was poor in spite of the high reaction rate. A little degradation was observed also in the case of polyacrylamide and sodium polyacrylate.

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Filter

CTA =Cellulose Triacetate

Excellent low molecular substances removal, BUN, Phosphate, etc Uniformed pore size membrane helps higher β2 Microglobulin removal and minimal albumin loss

- Polpypropylene and polyethersulfone

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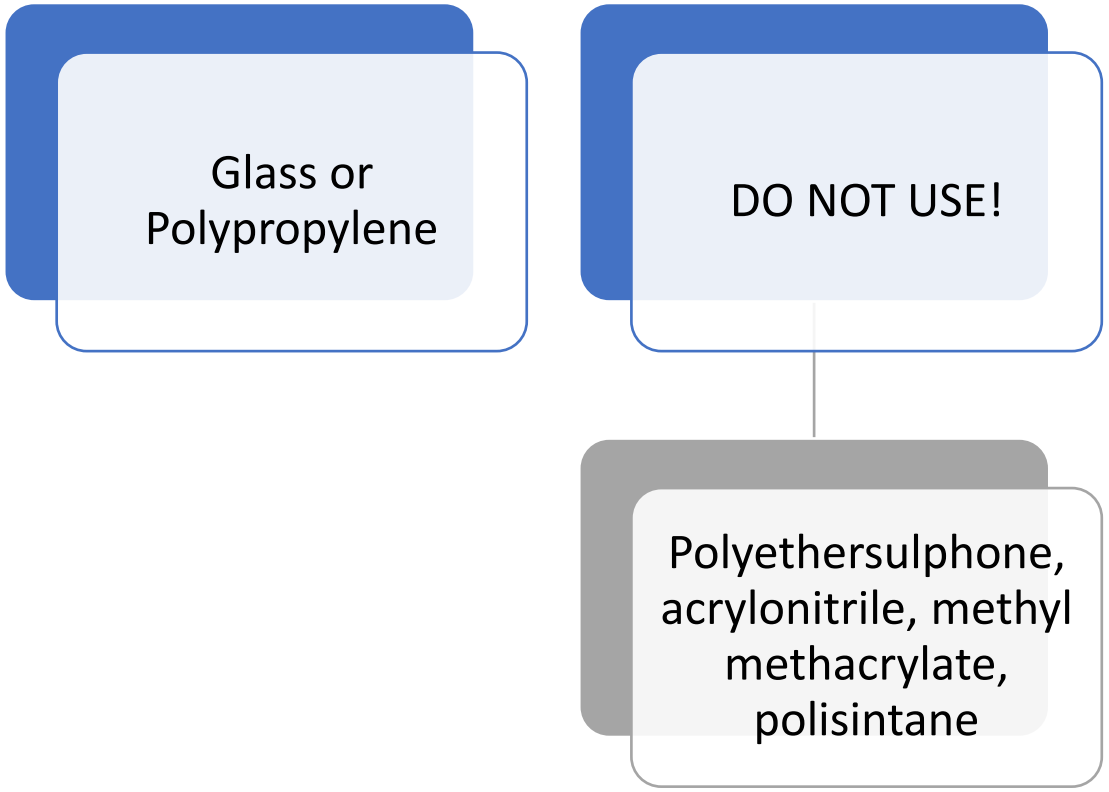
Materials



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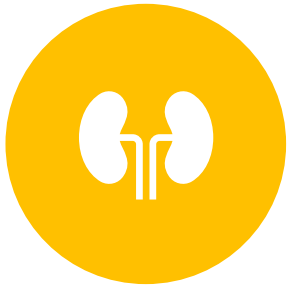
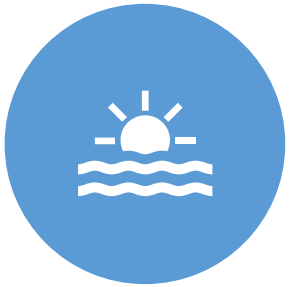
Continuous flow of oxygen and/or ozone administered to blood.

Blood is filtered through a dialyzer which allows maximum surface contact.



A peristaltic pump is used to move blood from one vein to another vein over a 1 hour time period.



Total 1.8 – 3 liters of blood is filtered and enriched with ozone/oxygen before being returned to the body.

EBOO

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Clinically Researched Usages

Recognized by International Society of Blood Purification as method that can reduce viral load in patients with chronic hepatitis.

Clinically effective in peripheral artery disease

- Necrotizing faciiitis, severe peripheral arterial dz, coronary disease, cholesterol embolism, severe dyslipidemia, Madelung disease and sudden deafness of vascular orgin.

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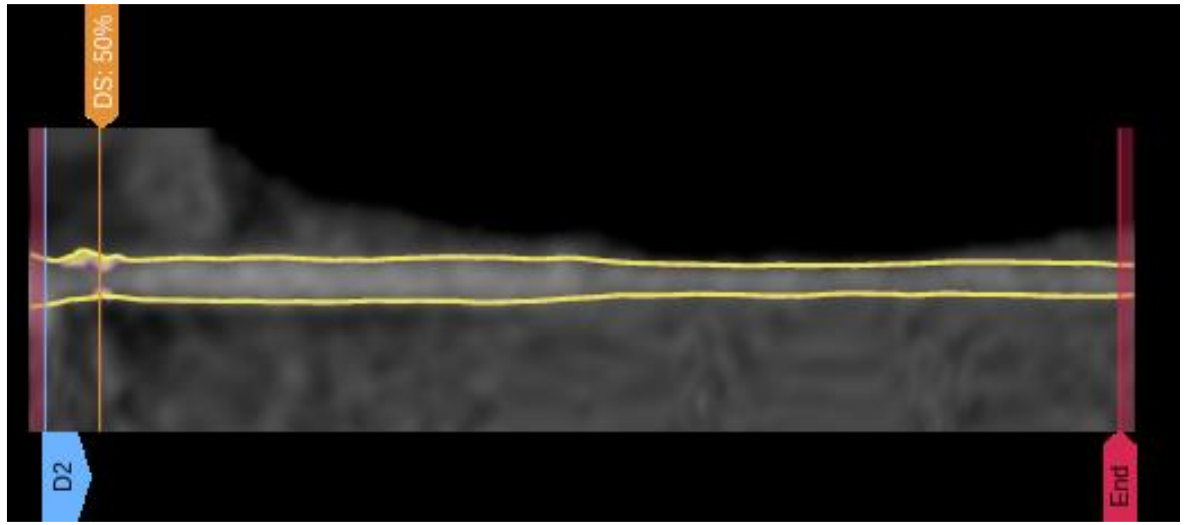
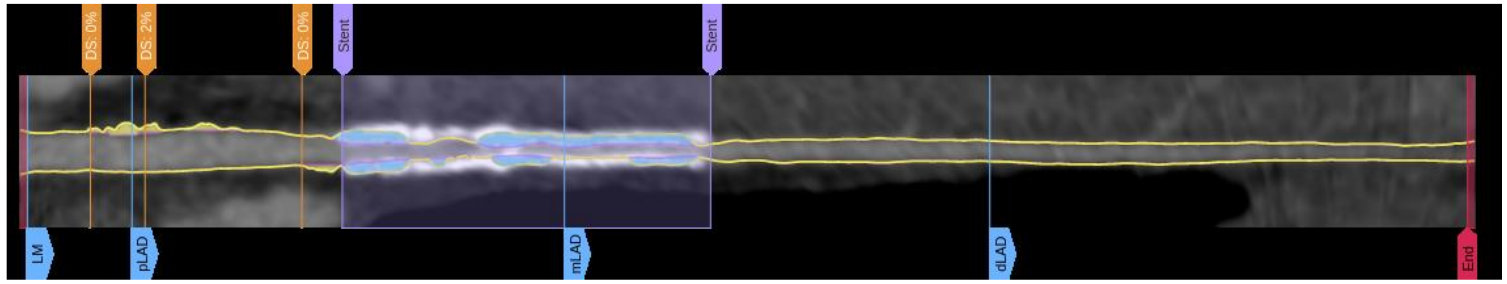
Proposed Indications

- Severe peripheral artery disease
- Cardiac ischemia
- Sever dyslipidemia
- Necrotizing fasciitis
- Severe bacterial infections that are resistant to antibiotics
- Ischemic stroke
- Chronic heart failure
- Viral hepatitis type A, B, C
- Chronic inflammatory process
- Pre-treatment for patients who are planning to undergo antiviral therapy medications

CT Angiography with AI enhancement





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Possible Other indications

- Other viral illness (EBV, CMV, Covid-19, etc)?
- Chronic bacteria (mycoplasma, c. pneumonia, bartonella, lyme and co-infections)?
- Biofilm removal or disruption
- Reduction in metals
- Reduction in microplastics
- Reductions in other toxicants (mycotoxins, VOC, etc)?
- Proactive service of blood for healthy aging?

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(c) Dr. Brenden Cochran, NMD, FAAO

International Scientific Committee of Ozone Therapy
Tel/Fax (+34) 913515175. Cell Phone (+34) 669685429
Avenida Juan Andrés 60. Local 1 – Bajo Izquierdo 28035,
Madrid (Spain) info@isco3.org www.isco3.org

Extracorporeal blood oxygenation-ozonation (EBOO)
ISCO3/MET/00/22

What is EBOO/F?

This blood is ozonated and then it is returned into the body, through an additional vein. This process continues over a 45 min-1-hour time period, with 1.8 to 3 liters of blood being filtered and enriched with ozone before being returned to the body

The concentration is 1LPM of oxygen at 3.5-7 gamma. We use 7500 IU heparin in 500 ml NS

The power of EBOO lies in both the ozone and dialyzer, which separates the blood and allows for maximum surface contact.

© a. valdivieso,bsn

(c) Dr. Brenden Cochran, NMD, FAAO

Credit to Angie Valdivieso, BSN

and Asher Milgram, PhD for research and pictures in next 9-10 slides

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(c) Dr. Brenden Cochran, NMD, FAAO

What is the “Gunk” in the Dialyzer?

- Based on lab test analysis, the filter purifies mostly lipid particles. We have also found heavy metals, for example mercury, lead & aluminum. Lab tests have also identified biofilm, micro-clots, yeast and fungi.

- This varies by patient and conditions and is all on a voluntary basis, no force can be given to increase or decrease what is excreted.

- We do advise as part of the session you include a IVNT bag.

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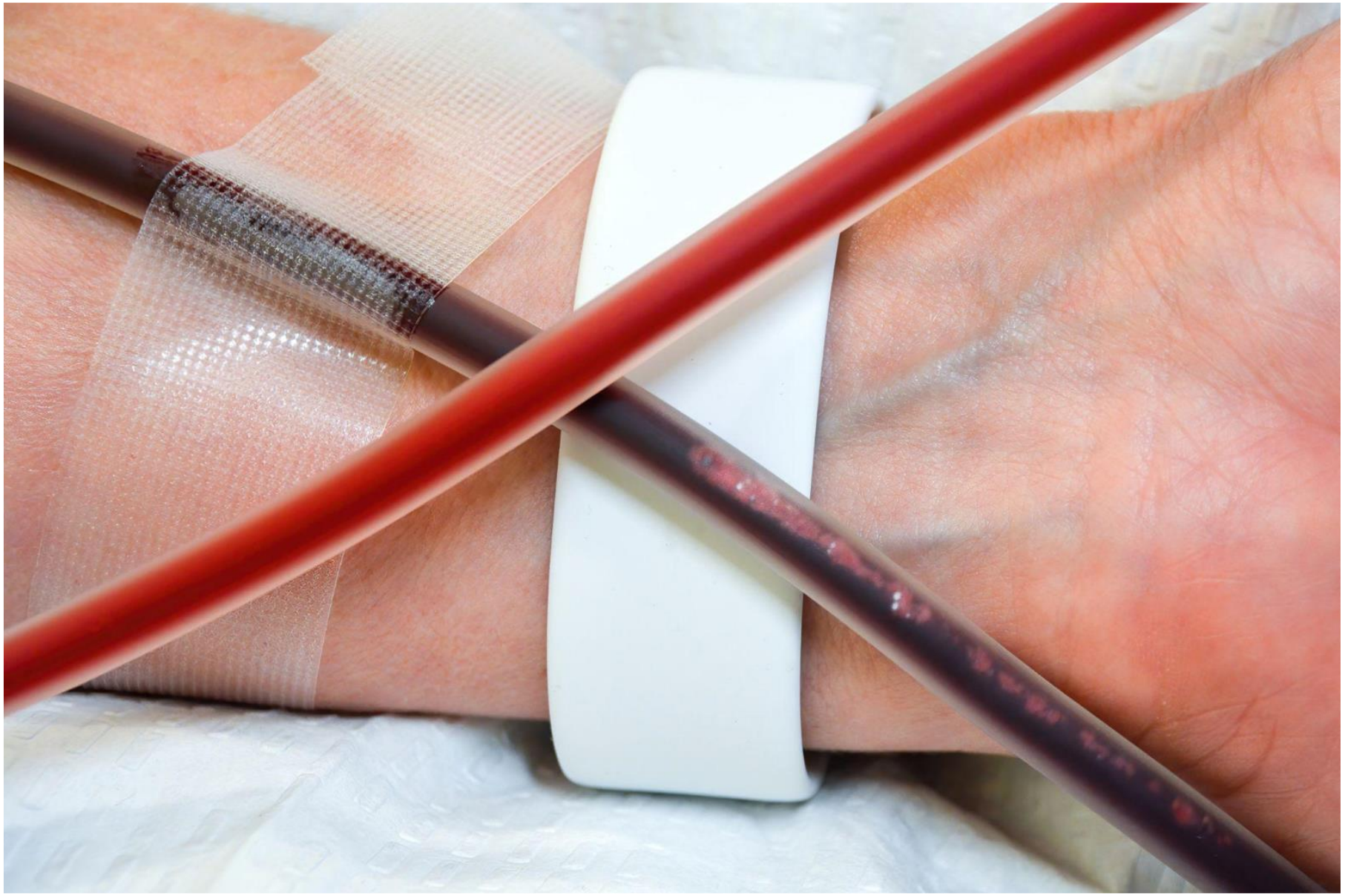

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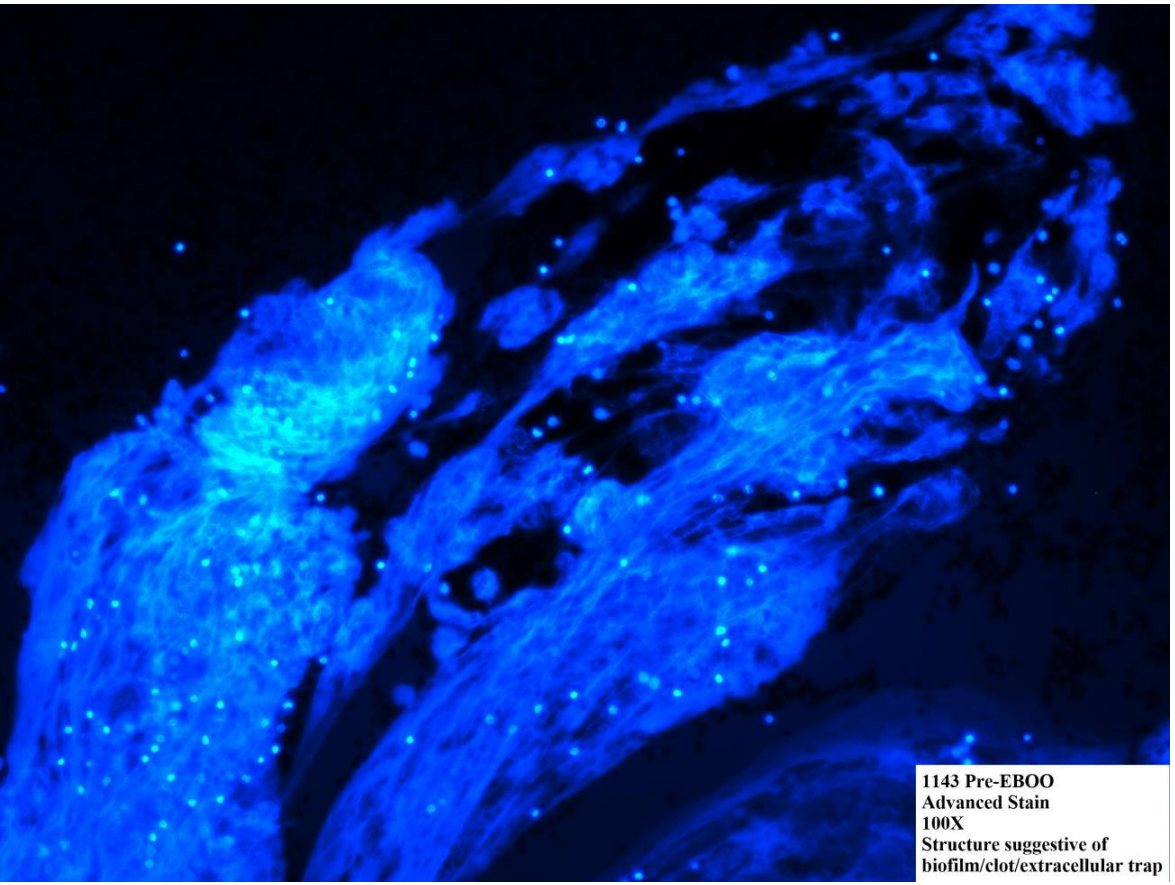
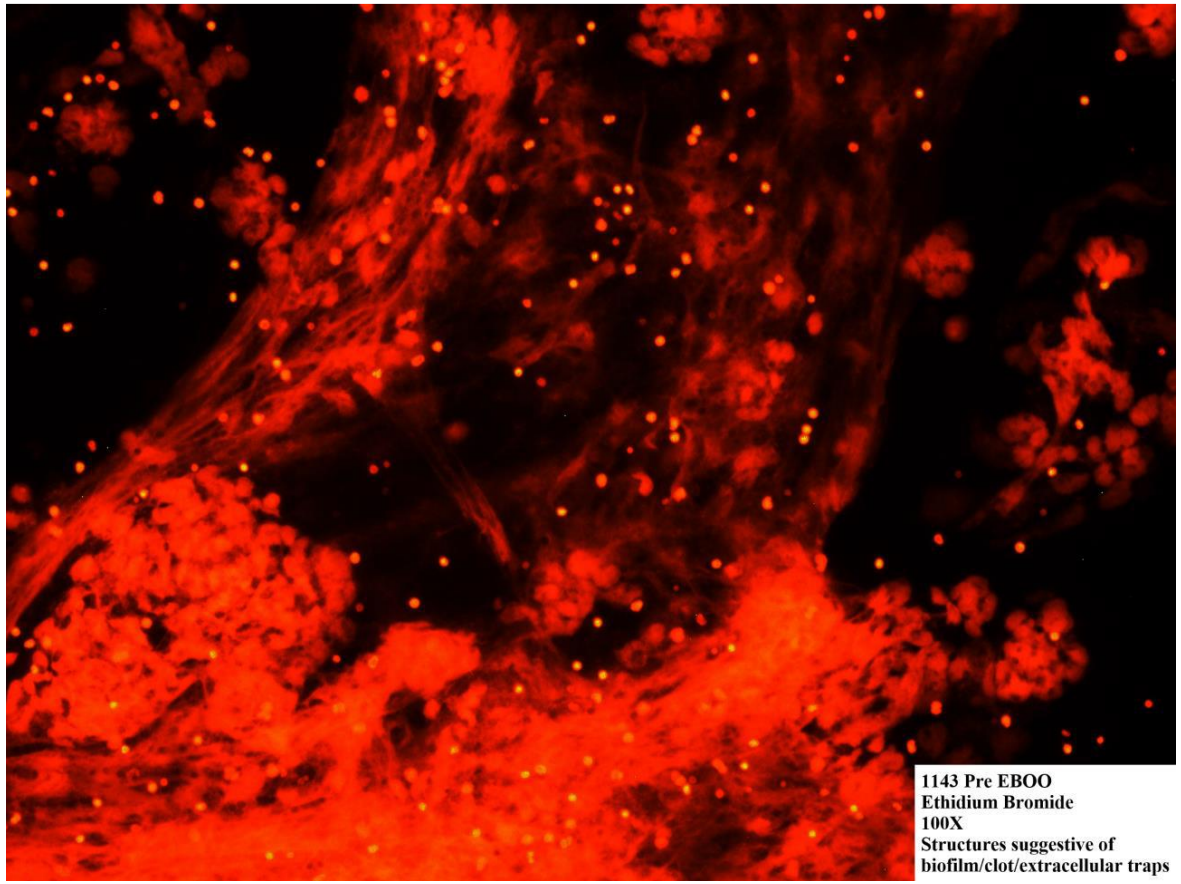
Pre-EBOO Blood Analysis

Blood clot/Biofilm microscopy



Blood clot/Biofilm microscopy



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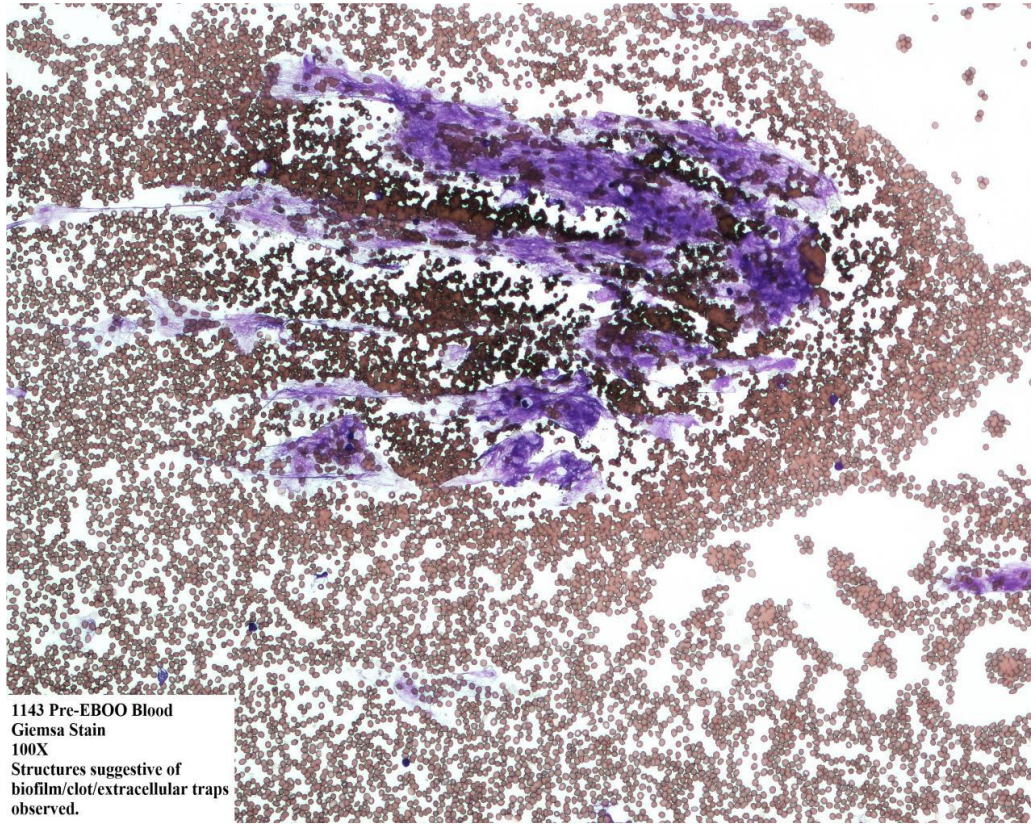
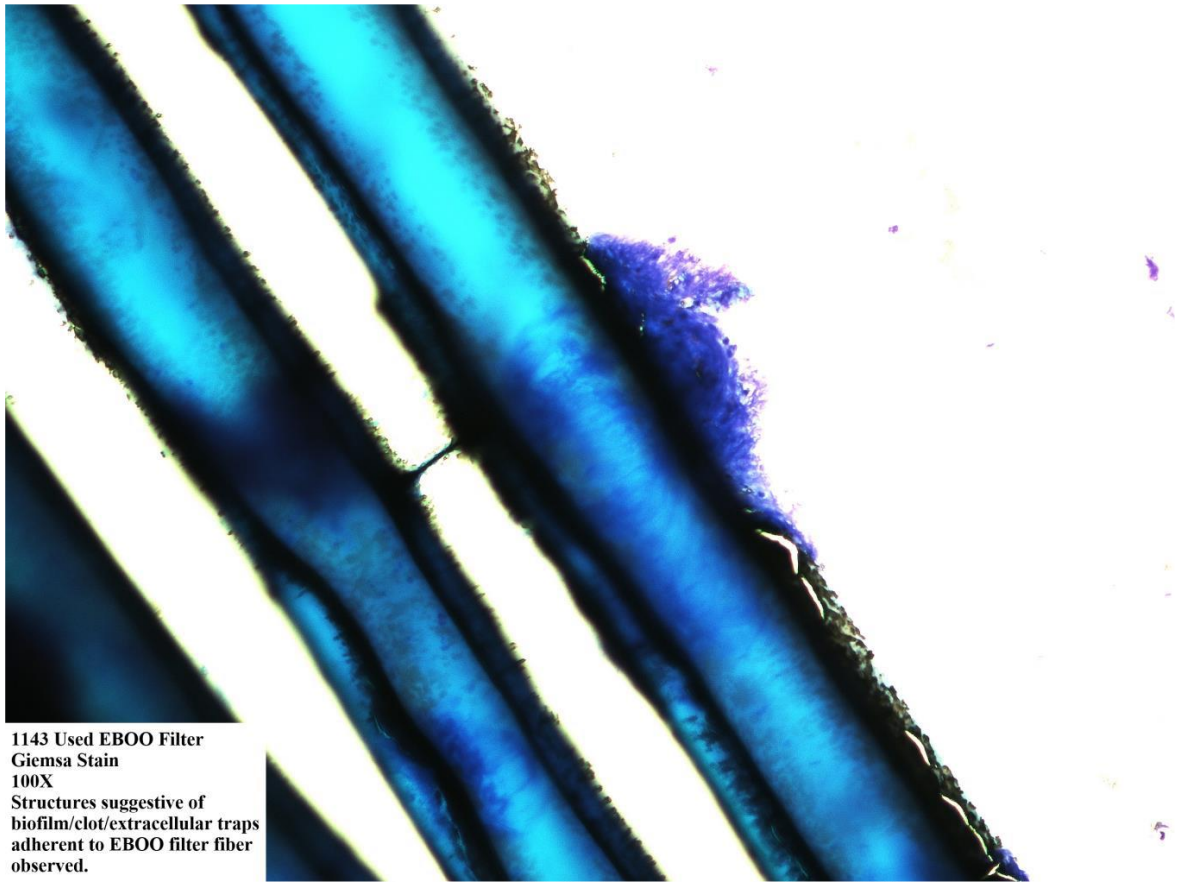
Pre-EBOO Blood Analysis

Blood clot/Biofilm in live blood



1143 Pre-EBOO Blood
Giemsa Stain
100X
Structures suggestive of biofilm/clot/extracellular traps observed.

Biofilm/Clot adherent to EBOO dialyzer fiber



1143 Used EBOO Filter
Giemsa Stain
100X
Structures suggestive of biofilm/clot/extracellular traps adherent to EBOO filter fiber observed.

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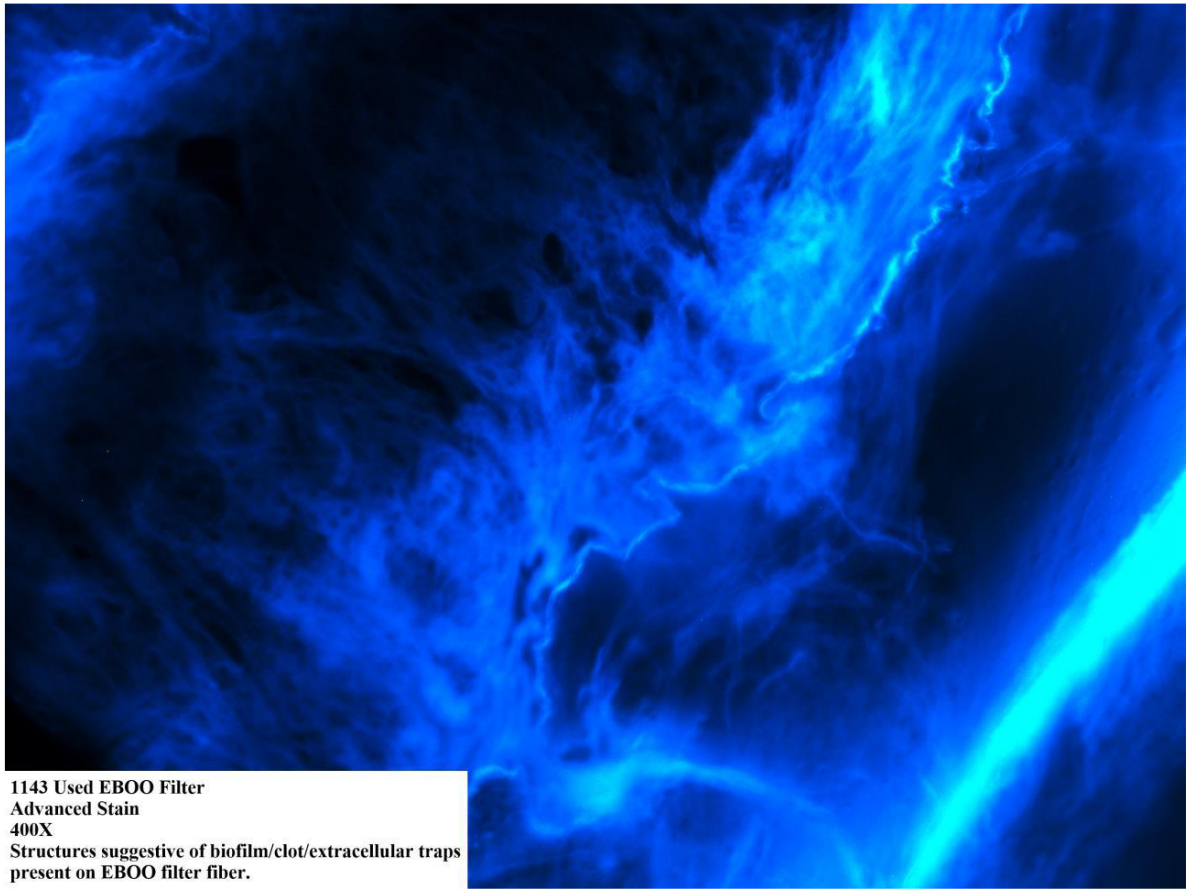
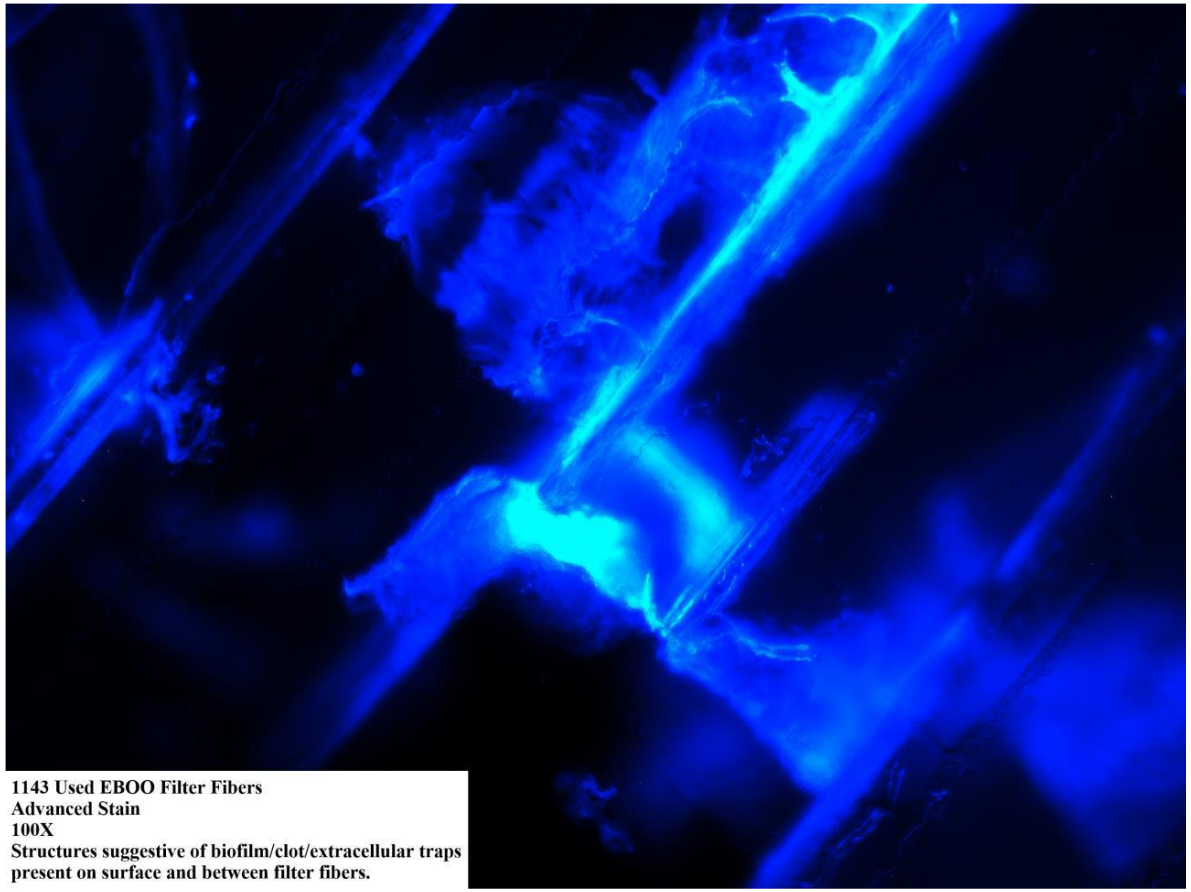
Used EBOO Filter

Blood clot/Biofilm in EBOO filter fiber



1143 Used EBOO Filter
Advanced Stain
400X
Structures suggestive of biofilm/clot/extracellular traps present on EBOO filter fiber.

Blood clot/Biofilm in EBOO filter fiber



1143 Used EBOO Filter Fibers
Advanced Stain
100X
Structures suggestive of biofilm/clot/extracellular traps present on surface and between filter fibers.

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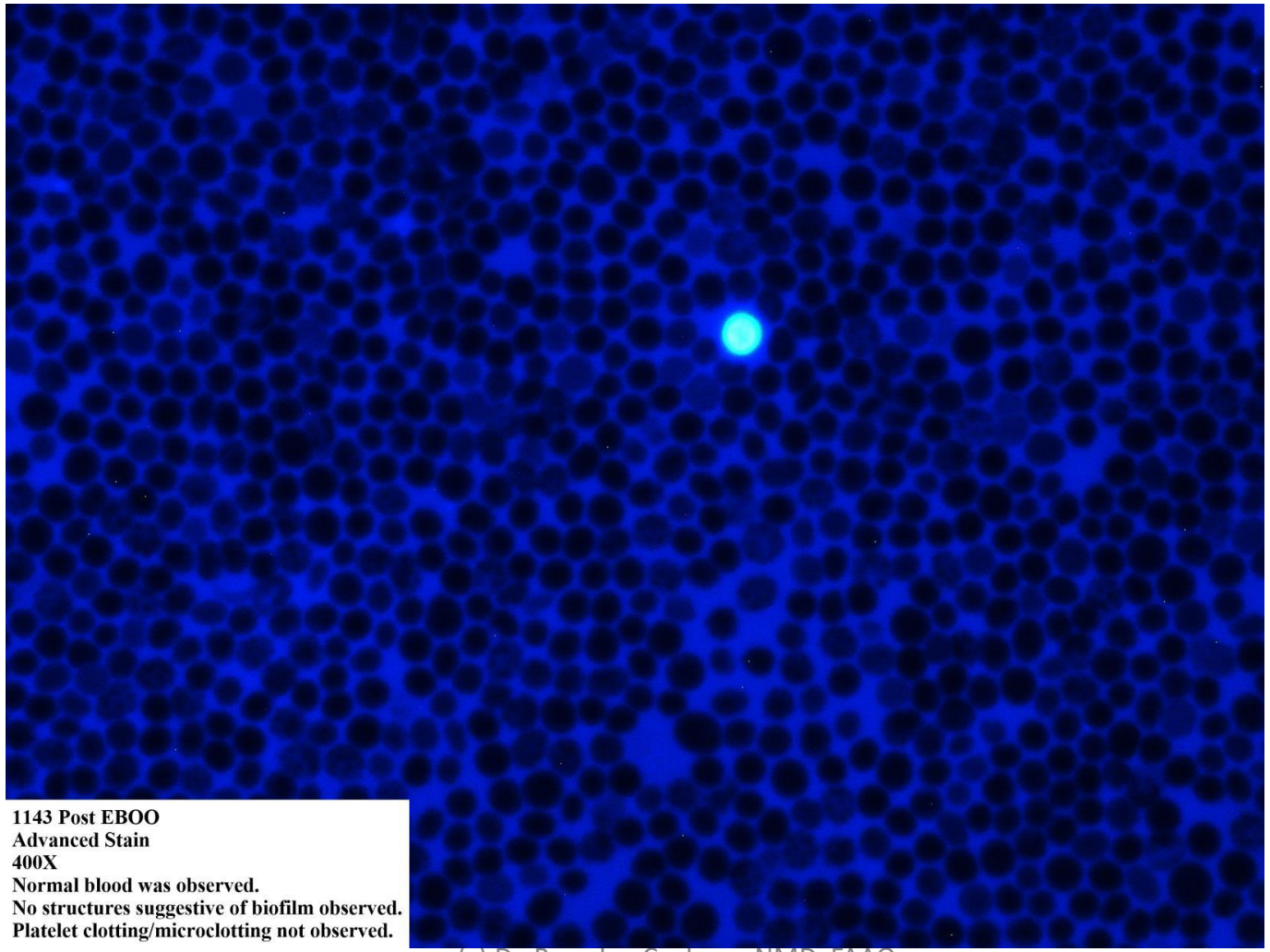
Post EBOO treatment live blood



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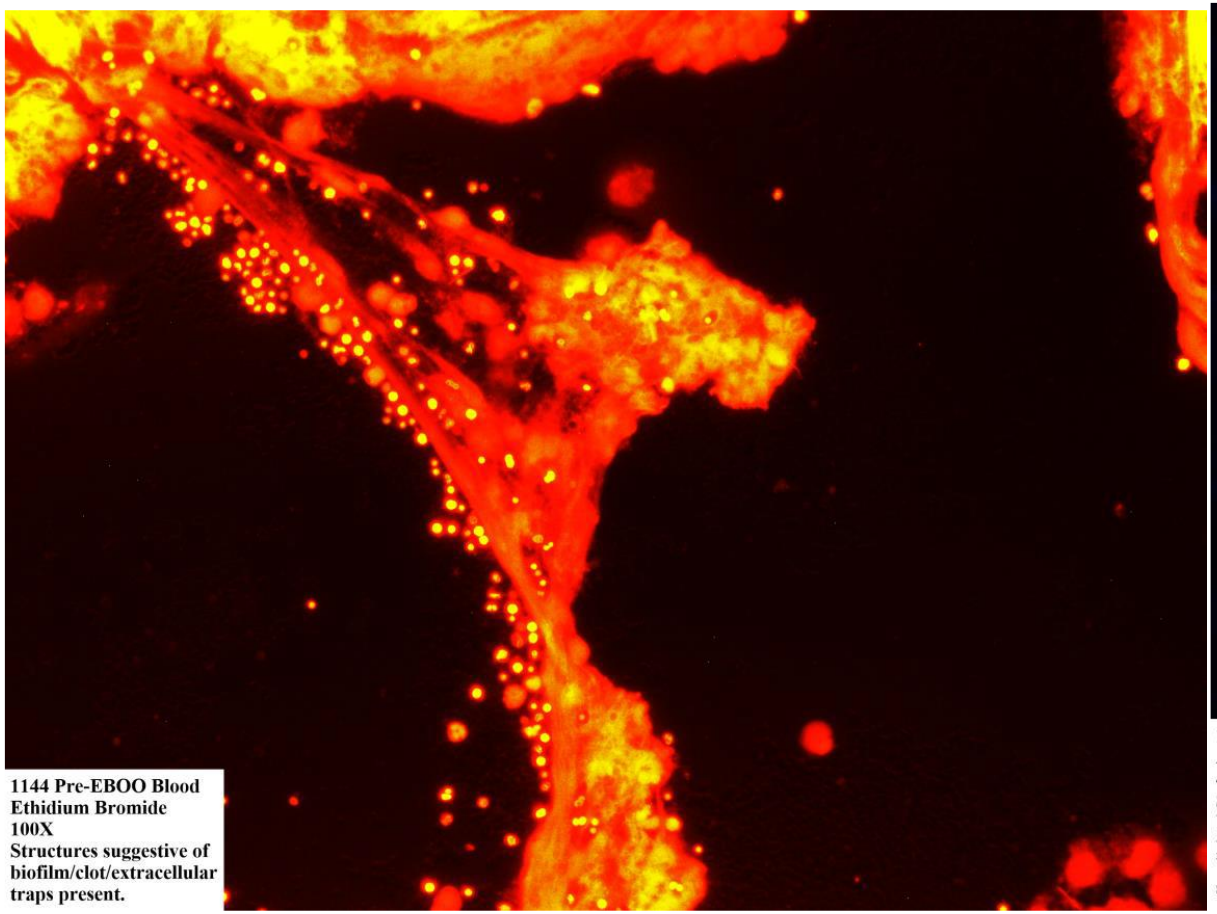
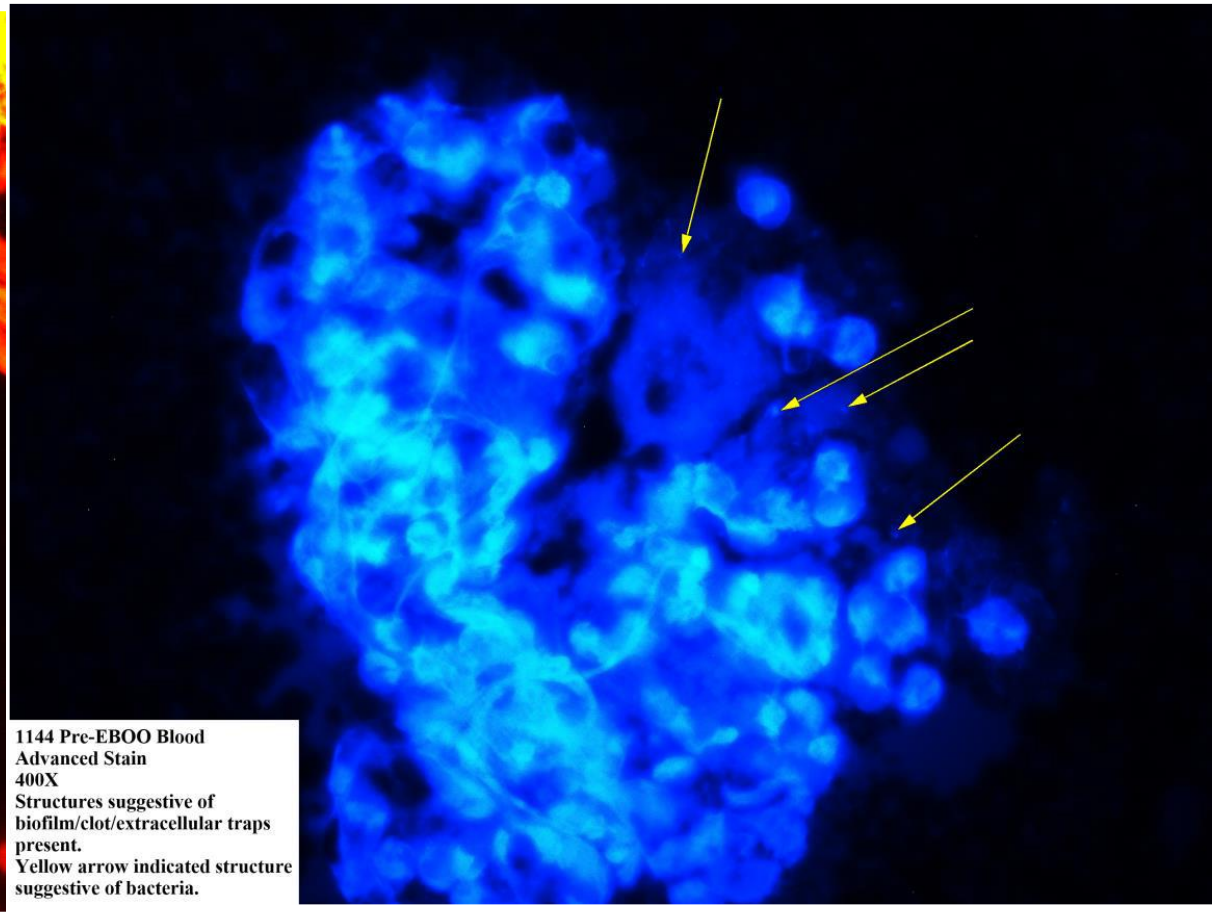
Pre EBOO blood analysis

Blood clot/Biofilm microscopy



Blood clot/Biofilm microscopy



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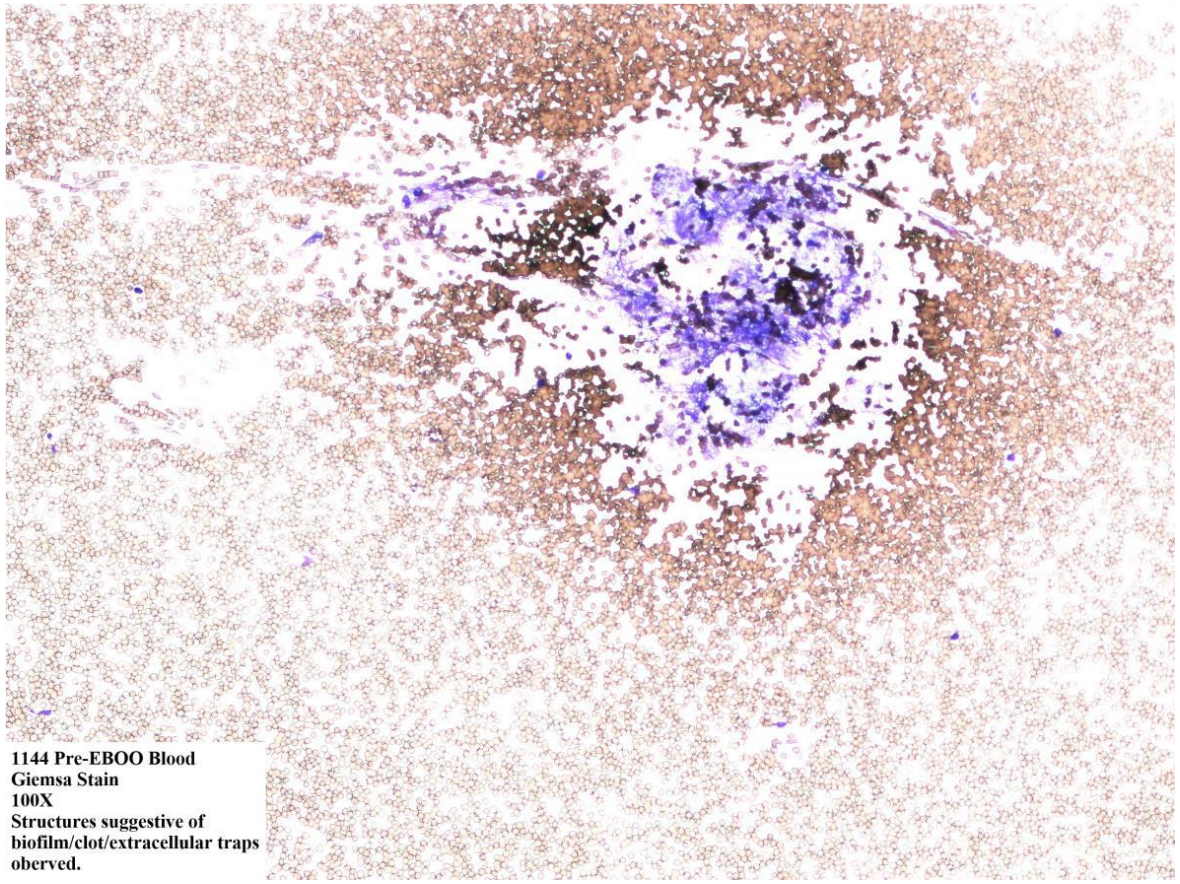
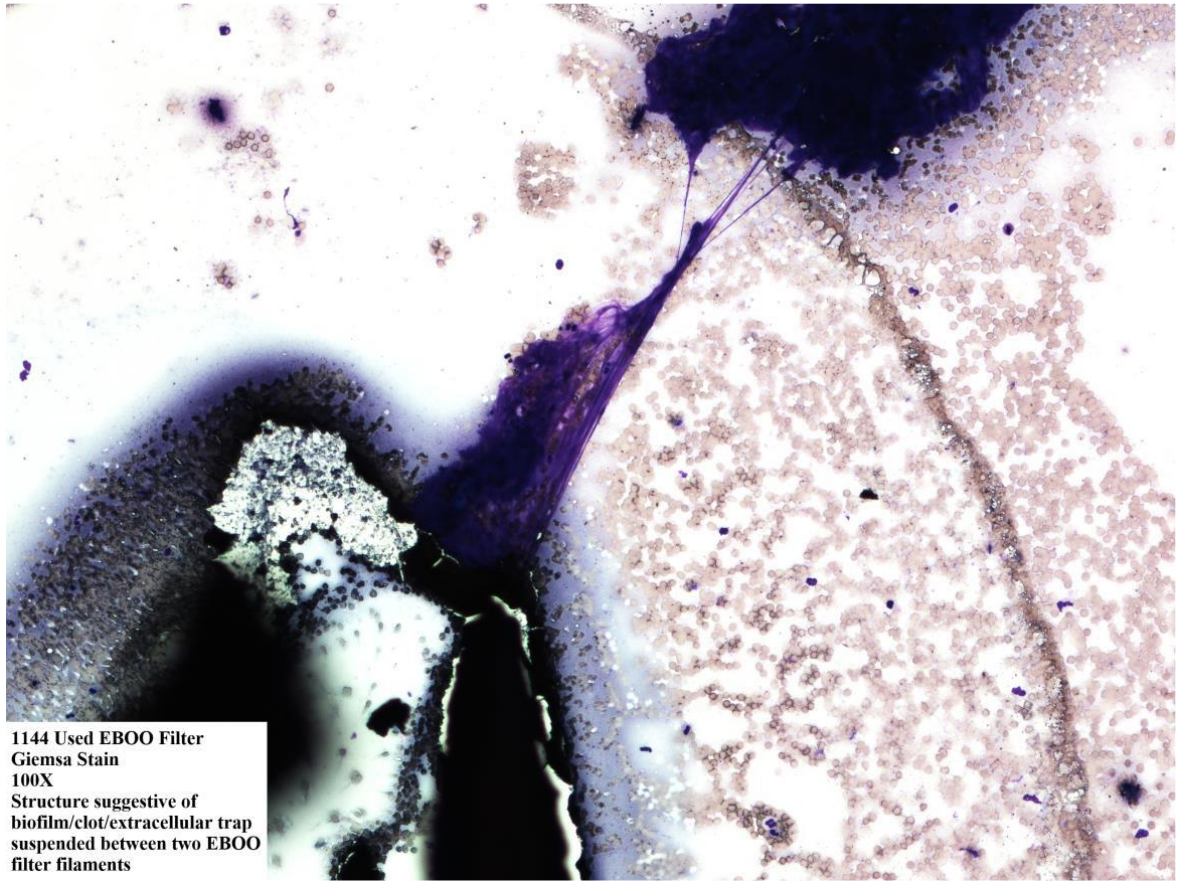
Pre-EBOO Blood Analysis

Blood clot/Biofilm in live blood



Biofilm/Clot adherent to EBOO dialyzer fiber



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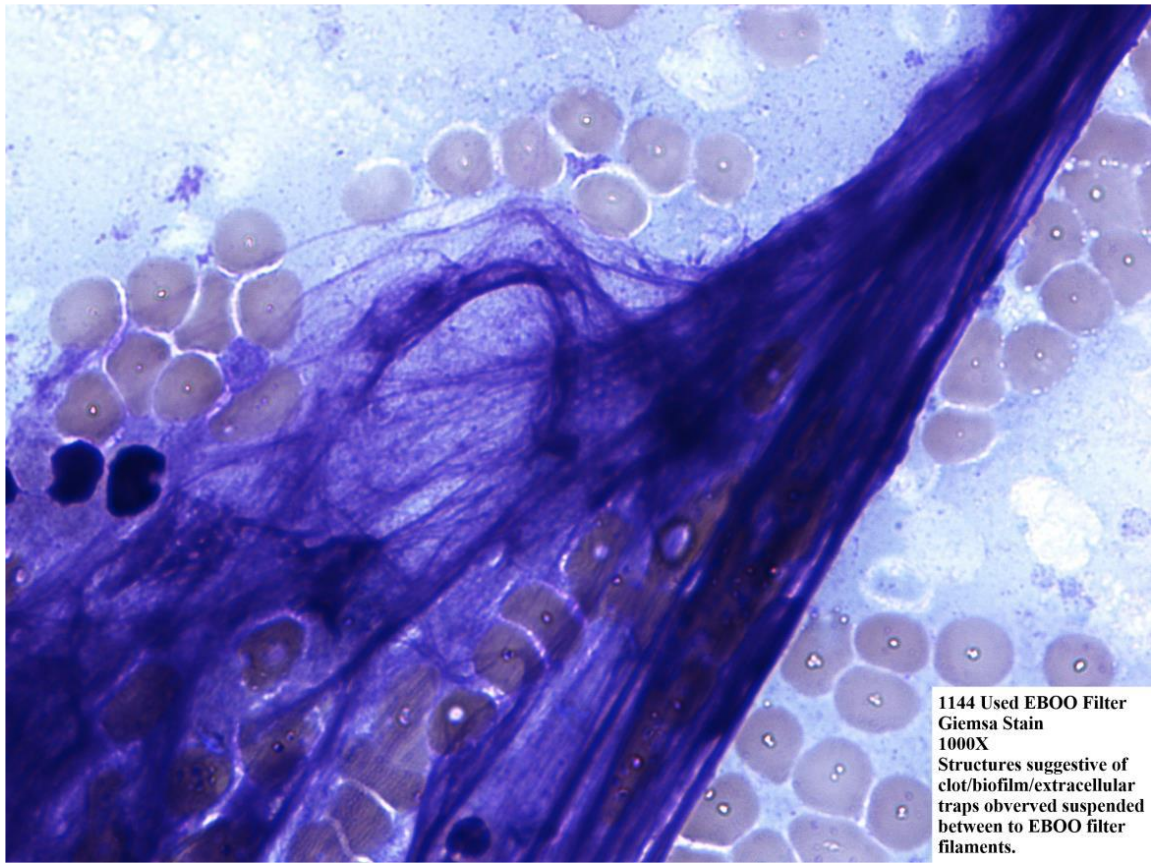
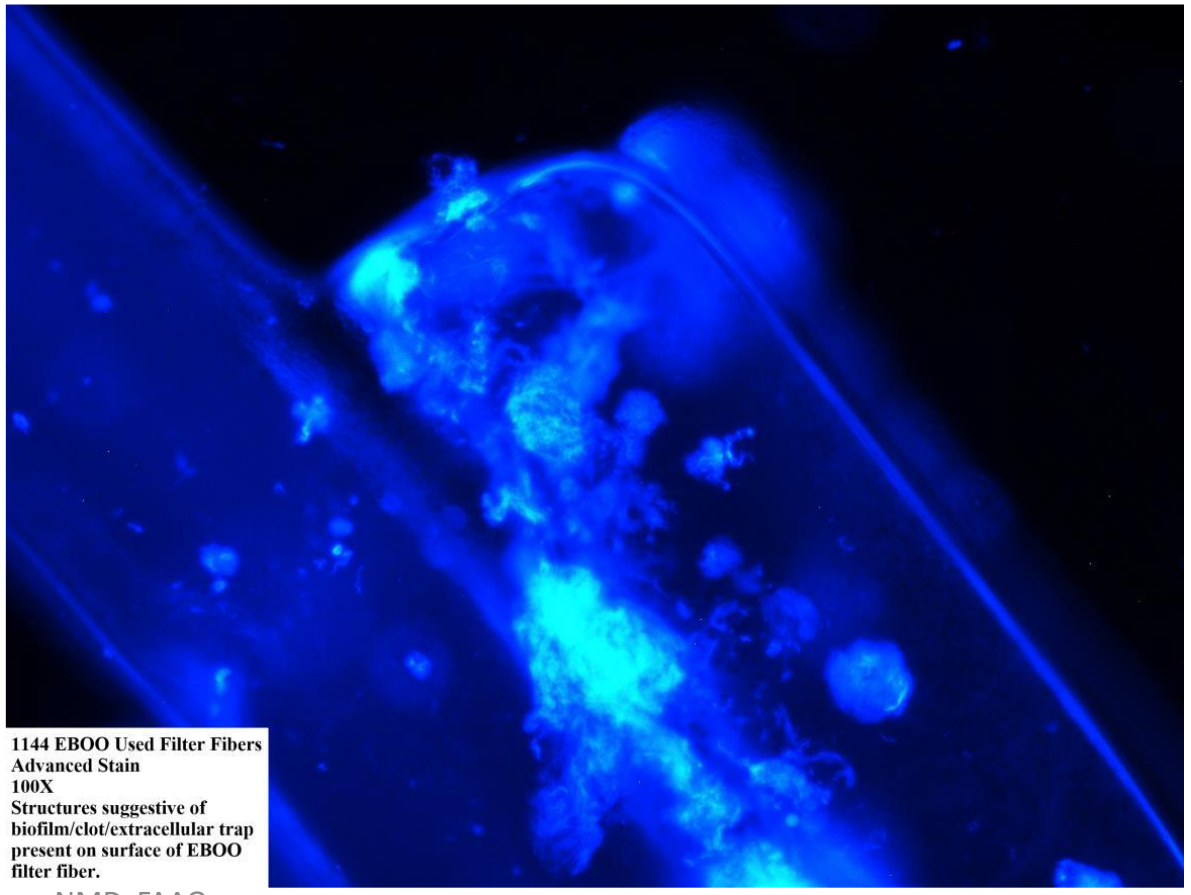
Used EBOO Filter

Blood clot/Biofilm in EBOO filter fiber



1144 Used EBOO Filter
Giemsa Stain
1000X
Structures suggestive of clot/biofilm/extracellular traps obverved suspended between to EBOO filter filaments.

Blood clot/Biofilm in EBOO filter fiber



1144 EBOO Used Filter Fibers
Advanced Stain
100X
Structures suggestive of biofilm/clot/extracellular trap present on surface of EBOO filter fiber.

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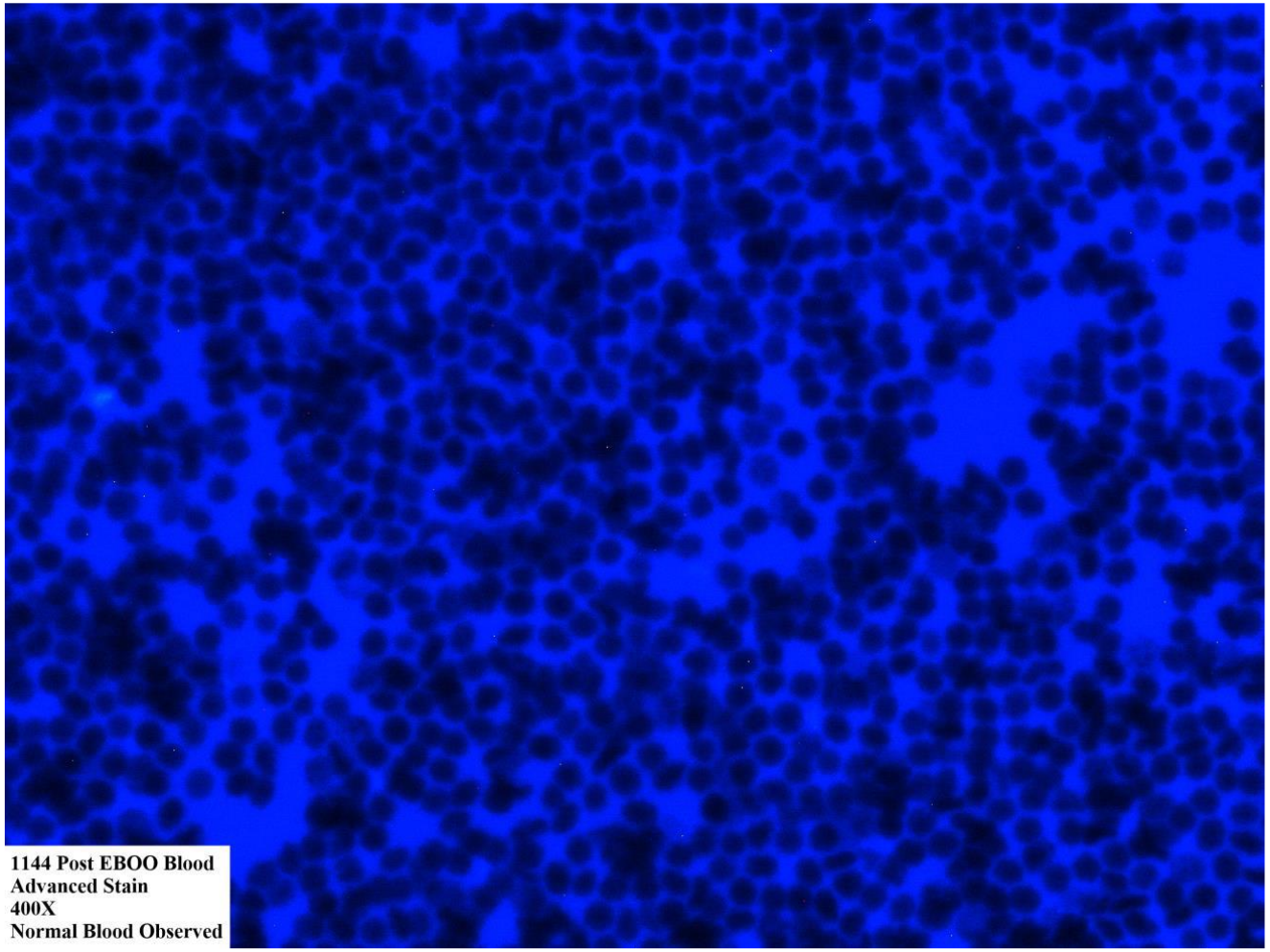
Post EBOO treatment live blood



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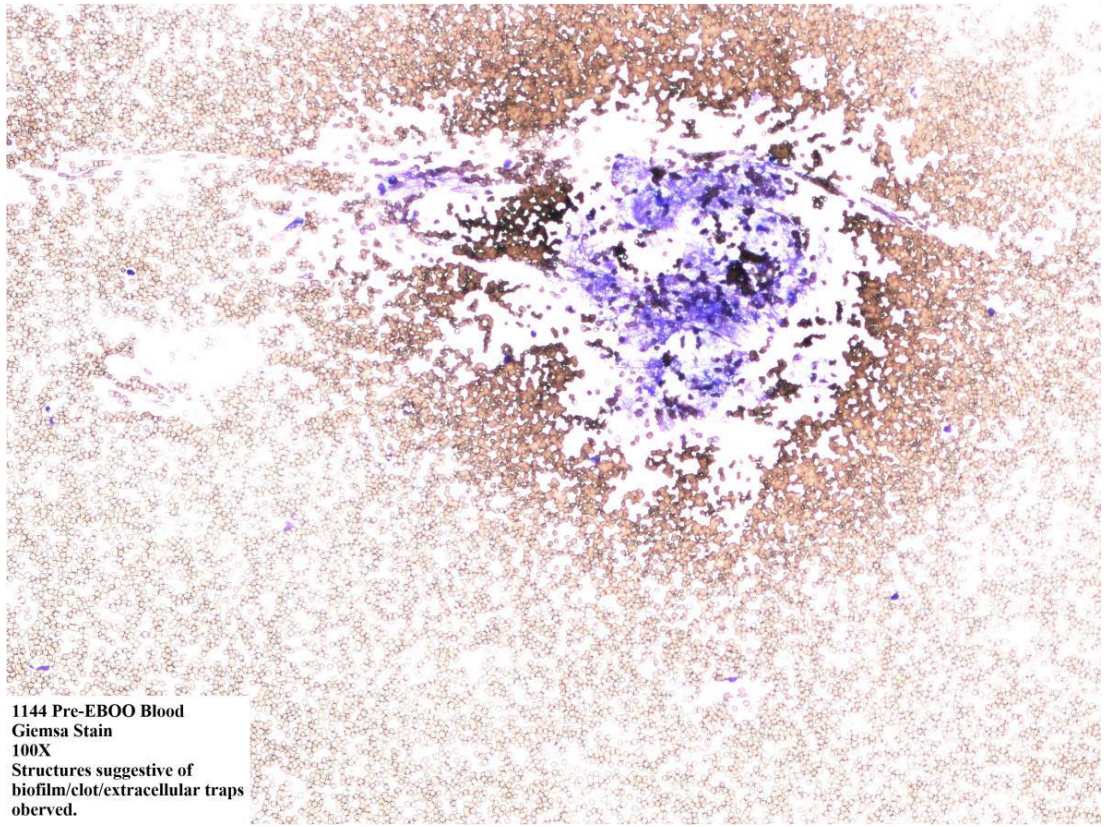
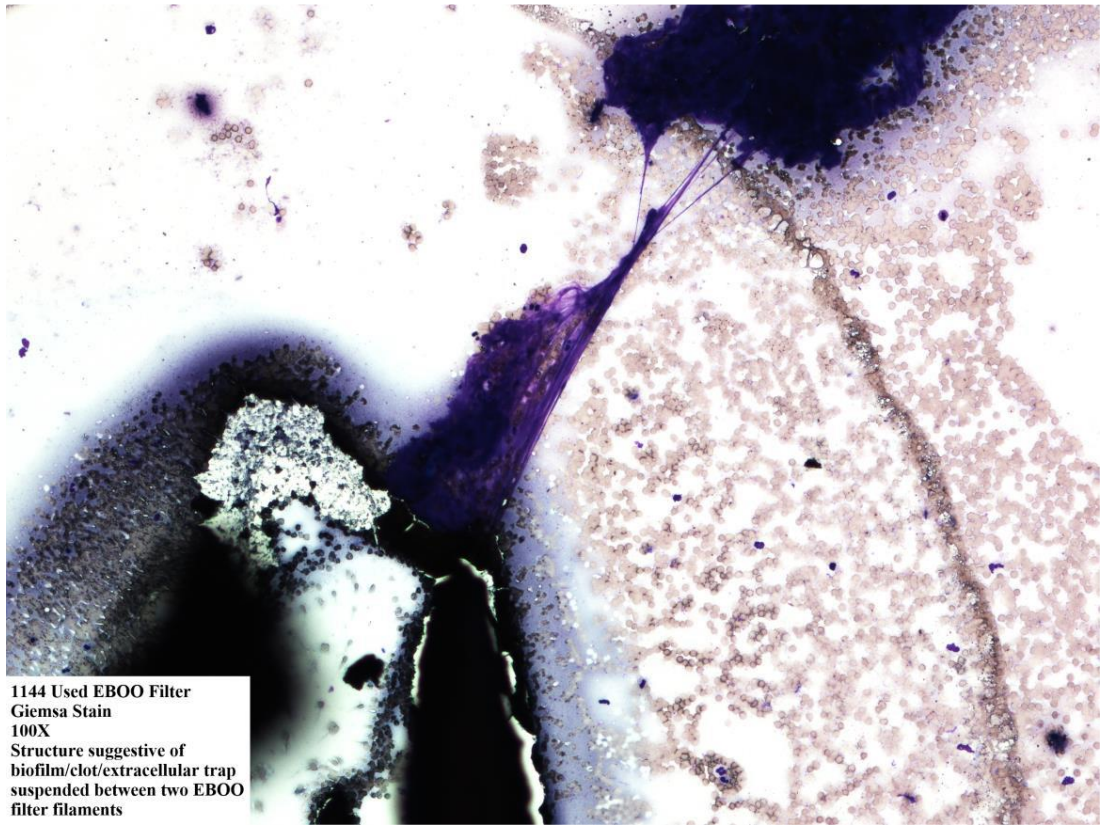
Pre-EBOO Blood Analysis

Blood clot/Biofilm in live blood



1144 Pre-EBOO Blood
Giemsa Stain
100X
Structures suggestive of biofilm/clot/extracellular traps oberved.

Biofilm/Clot adherent to EBOO dialyzer fiber



1144 Used EBOO Filter
Giemsa Stain
100X
Structure suggestive of biofilm/clot/extracellular trap suspended between two EBOO filter filaments

(c) Dr. Brenden Cochran, NMD, FAAO

Heavy Metals

Date	Age	Sex	Name	Heavy Metal				
				Aluminum	Arsenic	Cadmium	Lead	Mercury
12/16/19	28	m	JR					
1/11/20				80	8.9	0.8	3.3	0.6
1/8/20								
1/24/20								
2/20/20				44	5.7	0.3	2.2	<dl
2/20/20								

Date	Age	Sex	Name	Heavy Metal				
				Aluminum	Arsenic	Cadmium	Lead	Mercury
12/11/19	25	m	JC					
12/16/19				85	8.2	0.3	3.6	1.9
1/24/20								
2/25/20				78	5	0.5	<dl	<dl
2/20/20								

(c) Dr. Brenden Cochran, NMD, FAAO

Heavy Metals

Date	Age	Sex	Name	Heavy Metal				
				Aluminum	Arsenic	Cadmium	Lead	Mercury
11/15/19	45		AV					
12/10/19				57	140	1.8	6.1	1.1
2/21/20				1.4	9.7	1.3	3.8	1.9
2/19/20	45							

(c) Dr. Brenden Cochran, NMD, FAAO

EBOO /F Heavy Metal Analysis Week 4 protocol:

EBOO /F – Heavy Metals Analysis

Week 1.

Day 1 – Chelation: EDTA; Day 2 – IV Mineral Repletion; Day 3 – EBOO

Week 2.

Day 1 – Chelation: EDTA; Day 2 – IV Mineral Repletion; Day 3 – EBOO

Week 3.

Day 1 – Chelation: EDTA; Day 2 – IV Mineral Repletion; Day 3 – EBOO

Week 4.

Day 1 – IV Mineral Repletion; Day 2 – EBOO

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EBOO /F – Heavy Metals Analysis

This was the IV Drip used:

Sodium Chloride	250ml
EDTA Calcium 300 mg/m (**1.5 ml** =450 mg dose) to (**3.5** ml=1050mg dose)	Titrate Weekly Start at 450mg up to 1050mg
Methylcobalamin 1000mcg/ml	1ml
B-Complex	1ml
Followed by: Glutathione Saline	 10ml 100ml

(c) Dr. Brenden Cochran, NMD, FAAO

52-YEAR-OLD FEMALE (HIGH LEAD)
(5 CHELATION AND EBOO SESSIONS
-USING EDTA FORMULA AT END LECTURE-

(c) Dr. Brenden Cochran, NMD, FAAO

Heavy Metal Stool (52 year old female) (10-2022)

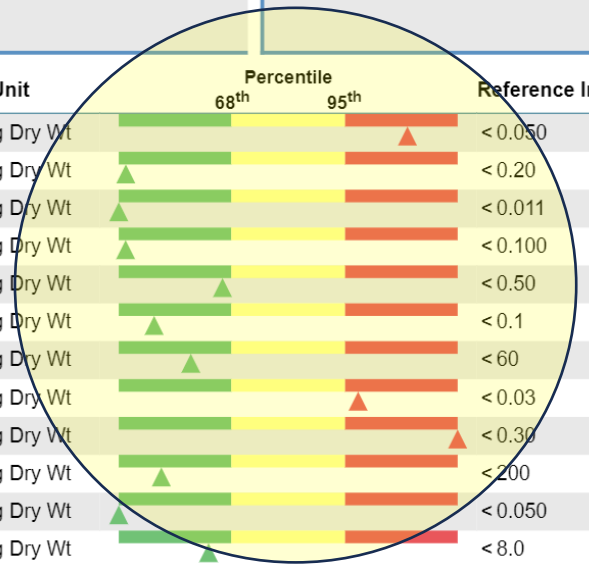
Pre

Client #: 24510
Great Plains Laboratory
9221 Quivira Road
Overland Park, KS 66215 U.S.A.

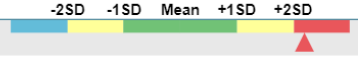
Sex: Female

Date Reported 10/07/2022

Toxic Metals	Result	Unit	Reference Interval
Antimony	0.220	mg/kg Dry Wt	< 0.050
Arsenic	0.05	mg/kg Dry Wt	< 0.20
Beryllium	0.003	mg/kg Dry Wt	< 0.011
Bismuth	0.007	mg/kg Dry Wt	< 0.100
Cadmium	0.46	mg/kg Dry Wt	< 0.50
Cesium	0.032	mg/kg Dry Wt	< 0.1
Copper	39	mg/kg Dry Wt	< 60
Gadolinium	0.130	mg/kg Dry Wt	< 0.03
Lead	47.9	mg/kg Dry Wt	< 0.30
Manganese	78.51	mg/kg Dry Wt	< 200
Mercury	<dl	mg/kg Dry Wt	< 0.050
Nickel	6.4	mg/kg Dry Wt	< 8.0
Platinum	<dl	mg/kg Dry Wt	< 0.003
Thallium	0.009	mg/kg Dry Wt	< 0.020
Tungsten	0.063	mg/kg Dry Wt	< 0.130
Uranium	0.133	mg/kg Dry Wt	< 0.100



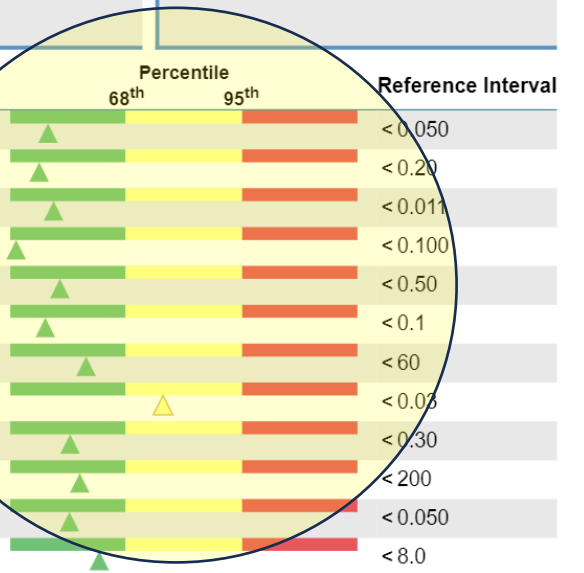
Water Content	Result	Unit	Reference Interval
Water Content	88.0	%	66.3 – 78.8



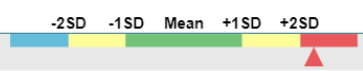
Post

Client #: 47938
Rupa Health
177 Townsend Street Unit 528
San Francisco, CA 94107 U.S.A.

Toxic Metals	Result	Unit	Reference Interval
Antimony	0.019	mg/kg Dry Wt	< 0.050
Arsenic	0.08	mg/kg Dry Wt	< 0.20
Beryllium	0.006	mg/kg Dry Wt	< 0.011
Bismuth	0.006	mg/kg Dry Wt	< 0.100
Cadmium	0.22	mg/kg Dry Wt	< 0.50
Cesium	0.031	mg/kg Dry Wt	< 0.1
Copper	40	mg/kg Dry Wt	< 60
Gadolinium	0.046	mg/kg Dry Wt	< 0.03
Lead	0.16	mg/kg Dry Wt	< 0.30
Manganese	122.1	mg/kg Dry Wt	< 200
Mercury	0.029	mg/kg Dry Wt	< 0.050
Nickel	6.2	mg/kg Dry Wt	< 8.0
Platinum	<dl	mg/kg Dry Wt	< 0.003
Thallium	0.010	mg/kg Dry Wt	< 0.020
Tungsten	0.024	mg/kg Dry Wt	< 0.130
Uranium	0.126	mg/kg Dry Wt	< 0.100



Water Content	Result	Unit	Reference Interval
Water Content	88.7	%	66.3 – 78.8



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PRE (Non Provoked -Urine Heavy Metals (11-2022)

Toxic Metals; urine

TOXIC METALS		RESULT µg/g Creat	REFERENCE INTERVAL	WITHIN REFERENCE / OUTSIDE REFERENCE
Aluminum	(Al)	1.2	< 25	
Antimony	(Sb)	0.032	< 0.18	
Arsenic	(As)	9.5	< 50	
Barium	(Ba)	0.35	< 5	
Beryllium	(Be)	<dl	< 0.01	
Bismuth	(Bi)	0.11	< 1	
Cadmium	(Cd)	0.54	< 0.9	
Cesium	(Cs)	6.9	< 10	
Gadolinium	(Gd)	0.03	< 0.8	
Lead	(Pb)	1.2	< 1.2	
Mercury	(Hg)	0.099	< 1.3	
Nickel	(Ni)	3.7	< 5	
Palladium	(Pd)	30	< 0.3	
Platinum	(Pt)	0.07	< 0.1	
Tellurium	(Te)	0.057	< 0.5	
Thallium	(Tl)	0.20	< 0.5	
Thorium	(Th)	<dl	< 0.02	
Tin	(Sn)	0.23	< 5	
Tungsten	(W)	0.30	< 0.4	
Uranium	(U)	0.023	< 0.03	

URINE CREATININE	RESULT	REFERENCE INTERVAL	-2SD -1SD MEAN +1SD +2SD
Creatinine	110	30 – 225	

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PRE (11-2022) AND POST (5-2023) (Provoked-Urine Heavy Metals

Toxic Metals; urine

TOXIC METALS		RESULT µg/g Creat	REFERENCE INTERVAL	WITHIN REFERENCE / OUTSIDE REFERENCE
Aluminum	(Al)	22	< 25	
Antimony	(Sb)	0.052	< 0.18	
Arsenic	(As)	7.2	< 50	
Barium	(Ba)	1.3	< 5	
Beryllium	(Be)	<dl	< 0.01	
Bismuth	(Bi)	0.053	< 1	
Cadmium	(Cd)	2.3	< 0.9	
Cesium	(Cs)	7.1	< 10	
Gadolinium	(Gd)	0.45	< 0.8	
Lead	(Pb)	32	< 1.2	
Mercury	(Hg)	0.054	< 1.3	
Nickel	(Ni)	5.1	< 5	
Palladium	(Pd)	27	< 0.3	
Platinum	(Pt)	<dl	< 0.1	
Tellurium	(Te)	<dl	< 0.5	
Thallium	(Tl)	0.38	< 0.5	
Thorium	(Th)	0.020	< 0.02	
Tin	(Sn)	0.51	< 5	
Tungsten	(W)	0.18	< 0.4	
Uranium	(U)	0.023	< 0.03	

URINE CREATININE	RESULT	REFERENCE INTERVAL	-2SD -1SD MEAN +1SD +2SD
Creatinine	79.4	30 – 225	

Toxic Metals; urine

TOXIC METALS		RESULT µg/g Creat	REFERENCE INTERVAL	WITHIN REFERENCE / OUTSIDE REFERENCE
Aluminum	(Al)	12	< 25	
Antimony	(Sb)	0.054	< 0.18	
Arsenic	(As)	7.3	< 50	
Barium	(Ba)	1.3	< 5	
Beryllium	(Be)	<dl	< 0.01	
Bismuth	(Bi)	0.11	< 1	
Cadmium	(Cd)	2.7	< 0.9	
Cesium	(Cs)	7.8	< 10	
Gadolinium	(Gd)	0.35	< 0.8	
Lead	(Pb)	9	< 1.2	
Mercury	(Hg)	<dl	< 1.3	
Nickel	(Ni)	6.4	< 5	
Palladium	(Pd)	25	< 0.3	
Platinum	(Pt)	<dl	< 0.1	
Tellurium	(Te)	<dl	< 0.5	
Thallium	(Tl)	0.28	< 0.5	
Thorium	(Th)	0.030	< 0.02	
Tin	(Sn)	0.87	< 5	
Tungsten	(W)	0.35	< 0.4	
Uranium	(U)	0.041	< 0.03	

URINE CREATININE	RESULT mg/dL	REFERENCE INTERVAL	-2SD -1SD MEAN +1SD +2SD
Creatinine	75.2	30 – 225	

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Microplastics

Environmental Technology & Innovation
Volume 26, May 2022, 102271

Oxidation of bisphenol-A by ozone microbubbles: Effects of operational parameters and kinetics study

1. Introduction

Endocrine-disrupting chemicals (EDCs) are among the top emerging contaminants as they are subclasses of the ubiquitous organic pollutants present in various types of water (i.e., seawater, streams, groundwater, drinking water, and wastewater) at very low concentrations. They have become the focus of environmental research in the recent years...

They often have adverse impacts on both human and natural organisms at trace or low concentrations, which may cause disruption of the endocrine systems. Thus, it is desirable to remove these chemicals from water.

$$1(C_{15}H_{16}O_2) + 12(O_3) \Rightarrow 8(H_2O) + 15(CO_2)$$

polycarbonate from bottled water

(c) Dr. Brenden Cochran, NMD, FAAO

Microplastics

- **There has been research in recent years that shows that microplastic pollution has been detected in human blood for the first time, with scientists finding the tiny particles in almost 80% of the people tested.**
- **https://www.sciencedirect.com/science/article/pii/S0160412022001258**

- **The discovery shows the particles can travel around the body and may lodge in organs.**
- **These particles originate from containers, plastic bottles, clothing, and other products that we use, as well as from the environment itself.**

- **The impact on health is as of yet unknown.**

- **But researchers are concerned as microplastics cause damage to human cells in the laboratory and air pollution particles are already known to enter the body and cause millions of early deaths a year.**

(c) Dr. Brenden Cochran, NMD, FAAO

EBOO/F - Dialyzer Microplastics Analysis using AUTHENTIC RENAK 1500 @ 7 gamma

Pre EBOO/F Microplastics Analysis

EMSL Analytical, Inc.

3700 Memorial Highway, Suite 131, Tampa, FL 33634
200 Route 130 North, Cinnaminson, NJ 08077
Phone: (813)-280-8750 (856) 858-4800

Attn: Reporting
Simple Lab
1345 4th Street
Berkley, CA, 94710
reporting@gosimplelab.com
Phone: 208.219.8283

EMSL Order No.: 162202454
Sample(s) Received: 8/17/2022
Date Reported: 8/31/2022
Date Printed: 8/31/2022
Reported By: C.Mirica

- Laboratory Report -

Analysis of Microplastics

Project: s-424-FLM-inf-DW-1-512

Distilled bottled water – Branded OTC – Analyzed "as is"

Conclusion:

The data obtained during analysis indicates the following:

- Microplastics were detected in the sample submitted.

Procurement of Samples and Analytical Overview:

The sample submitted for analysis arrived at EMSL Analytical on 8/17/2022. The package arrived in satisfactory condition with no evidence of damage to the contents. The data reported herein has been obtained using the following equipment and methodologies.

Methods & Equipment: Polarized Light Microscopy (PLM) – Zeiss, Universal Petrographic Microscope
Reflected Light Microscopy (RLM) – Nikon, DF Microscope
Fluorescence Microscopy (FLM) – Zeiss, Fluorescence Microscope

Analyzed by: [signature] 31 August 2022
John Hyatton, Senior Materials Scientist — Date

Reviewed/Approved by: [signature] 31 August 2022
Eugenia Mitrica, M.D., Laboratory Director — Date

Post EBOO/F Microplastics Analysis

EMSL Analytical, Inc.

3700 Memorial Highway, Suite 131, Tampa, FL 33634
200 Route 130 North, Cinnaminson, NJ 08077
Phone: (813)-280-8750 (856) 858-4800

Attn: Reporting
Simple Lab
1345 4th Street
Berkley, CA, 94710
reporting@gosimplelab.com
Phone: 208.219.8283

EMSL Order No.: 162202453
Sample(s) Received: 8/17/2022
Date Reported: 8/31/2022
Date Printed: 8/31/2022
Reported By: C.Mirica

- Laboratory Report -

Analysis of Microplastics

Project: s-424-FLM-inf-DW-1-512

Distilled bottled water – Branded OTC – Analyzed after EBOO/F dialyzer

Conclusion:

The data obtained during analysis indicates the following:

- No microplastics were detected in the sample submitted.

Procurement of Samples and Analytical Overview:

The sample submitted for analysis arrived at EMSL Analytical on 8/17/2022. The package arrived in satisfactory condition with no evidence of damage to the contents. The data reported herein has been obtained using the following equipment and methodologies.

Methods & Equipment: Polarized Light Microscopy (PLM) – Zeiss, Universal Petrographic Microscope
Reflected Light Microscopy (RLM) – Nikon, DF Microscope
Fluorescence Microscopy (FLM) – Zeiss, Fluorescence Microscope

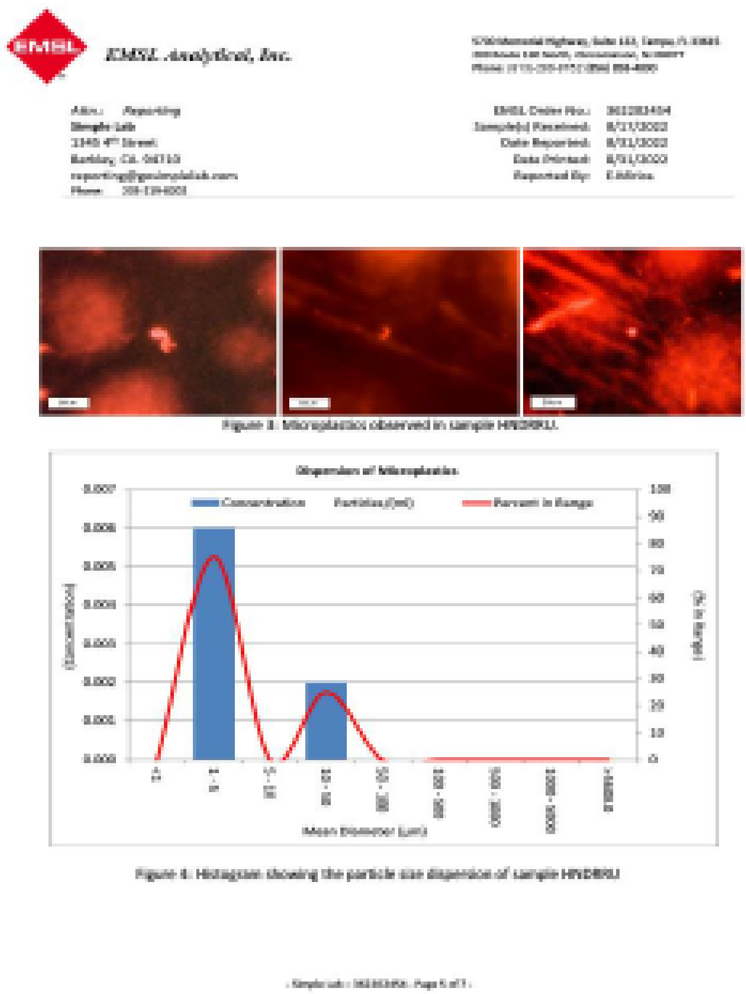
Analyzed by: [signature] 26 August 2022
Date

Reviewed/Approved by: [signature] 31 August 2022
Eugenia Mitrica, M.D., Laboratory Director — Date

mission from the original

EBOO/F - Dialyzer Microplastics Analysis

Pre EBOO/F Microplastics Analysis



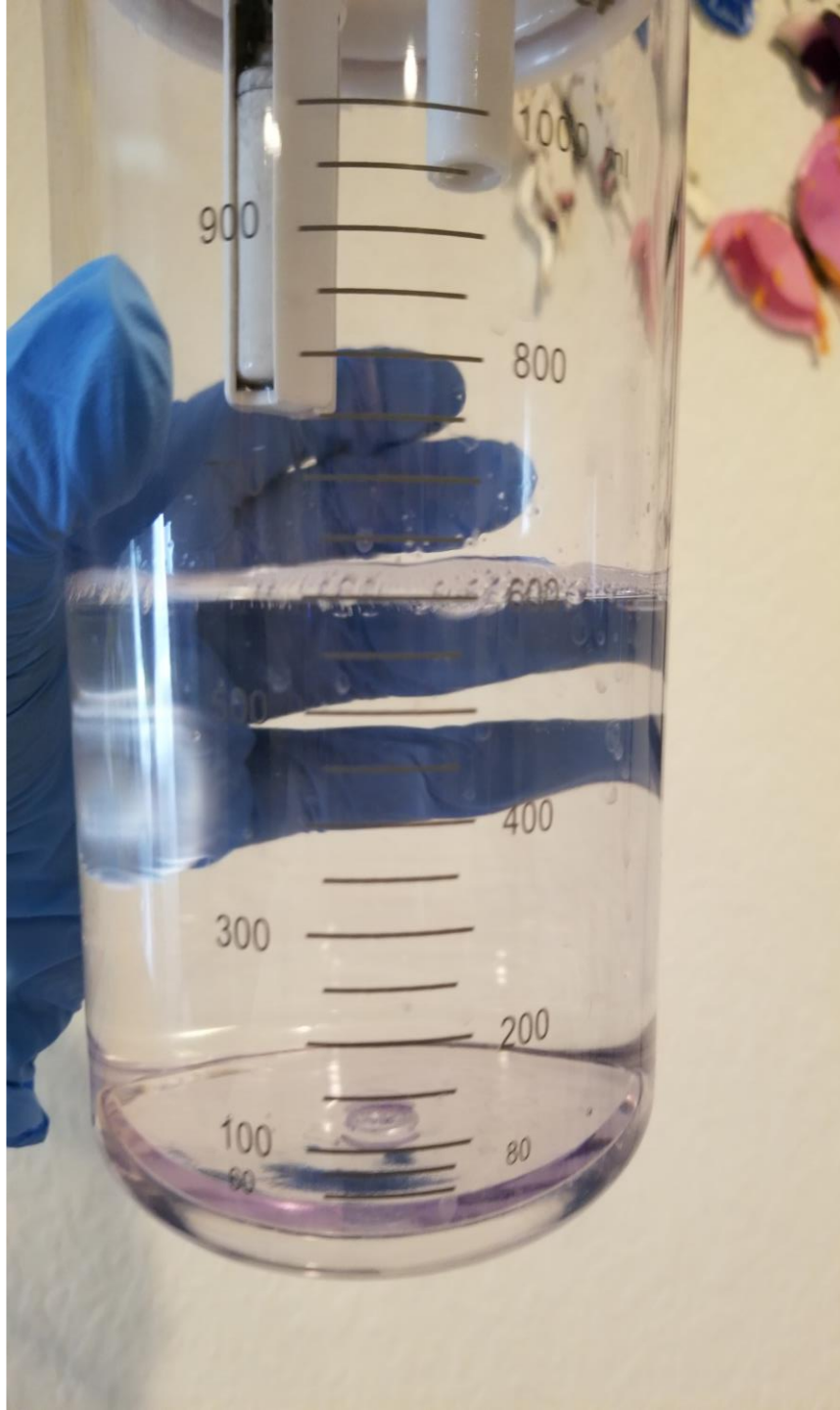
Post EBOO/F Microplastics Analysis

***This information is used with permission from the original author Dr. Asher Milgrom

What is the Fluid?

In general, it will be urea, creatinine , calcium, organic phosphate, uric acid, sodium, potassium, chloride, albumin and excess fluid

Recent Stateside studies have found microplastics, yeast, fungi, metabolic waste, damaged cells, and microbes



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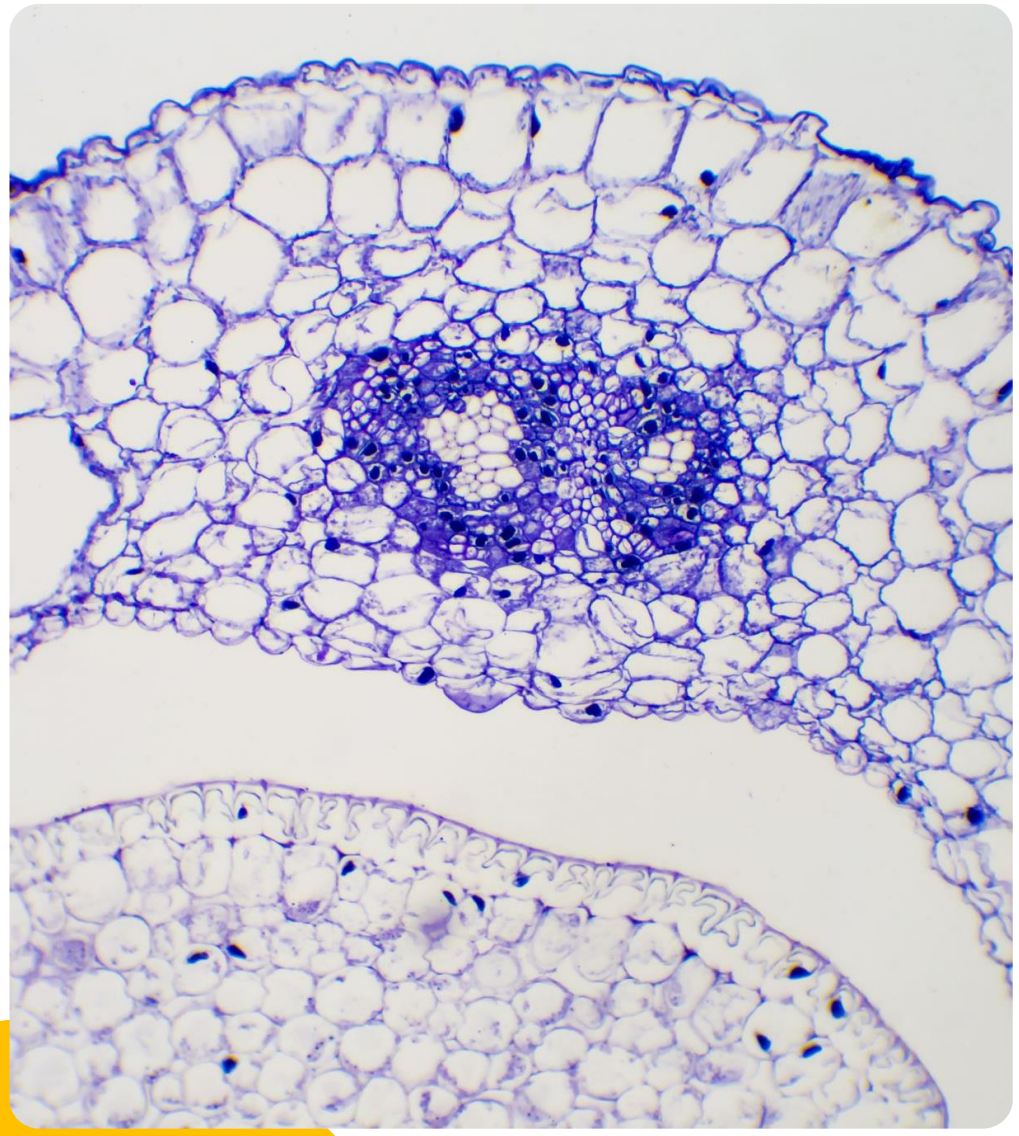

EBOO is NOT Apheresis

- Apheresis has many filters to lower LDL, unhealthy cells
- We don’t know yet or suspect there is removal LDL during EBOO

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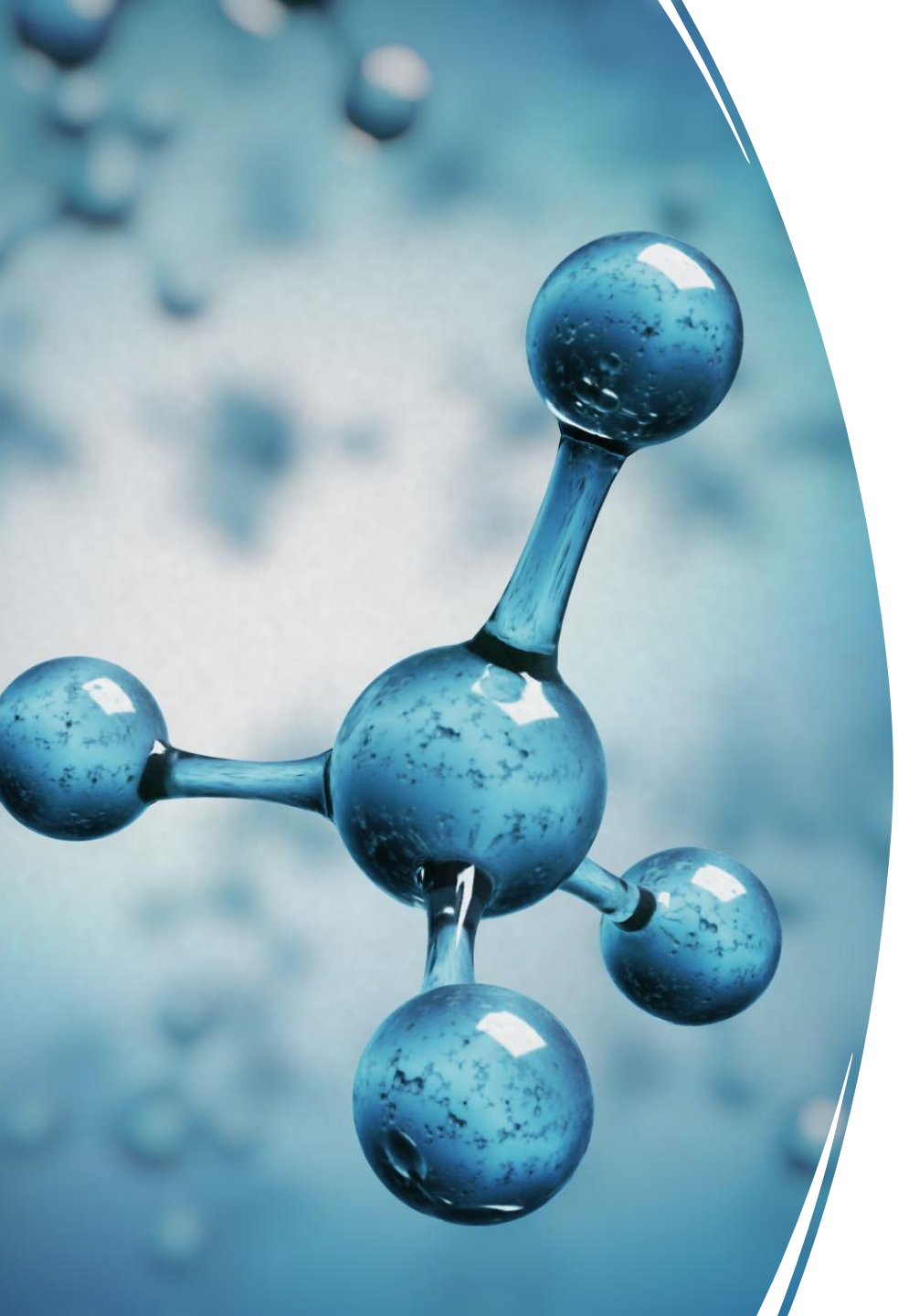

Principles that enable EBOO to work

- There are three principles that enable EBOO to work. There are the fluid movements and gas movements.
- The fluid moves through the dialyzer through diffusion, osmosis, and ultrafiltration.
- The ozone and oxygen move through diffusion.

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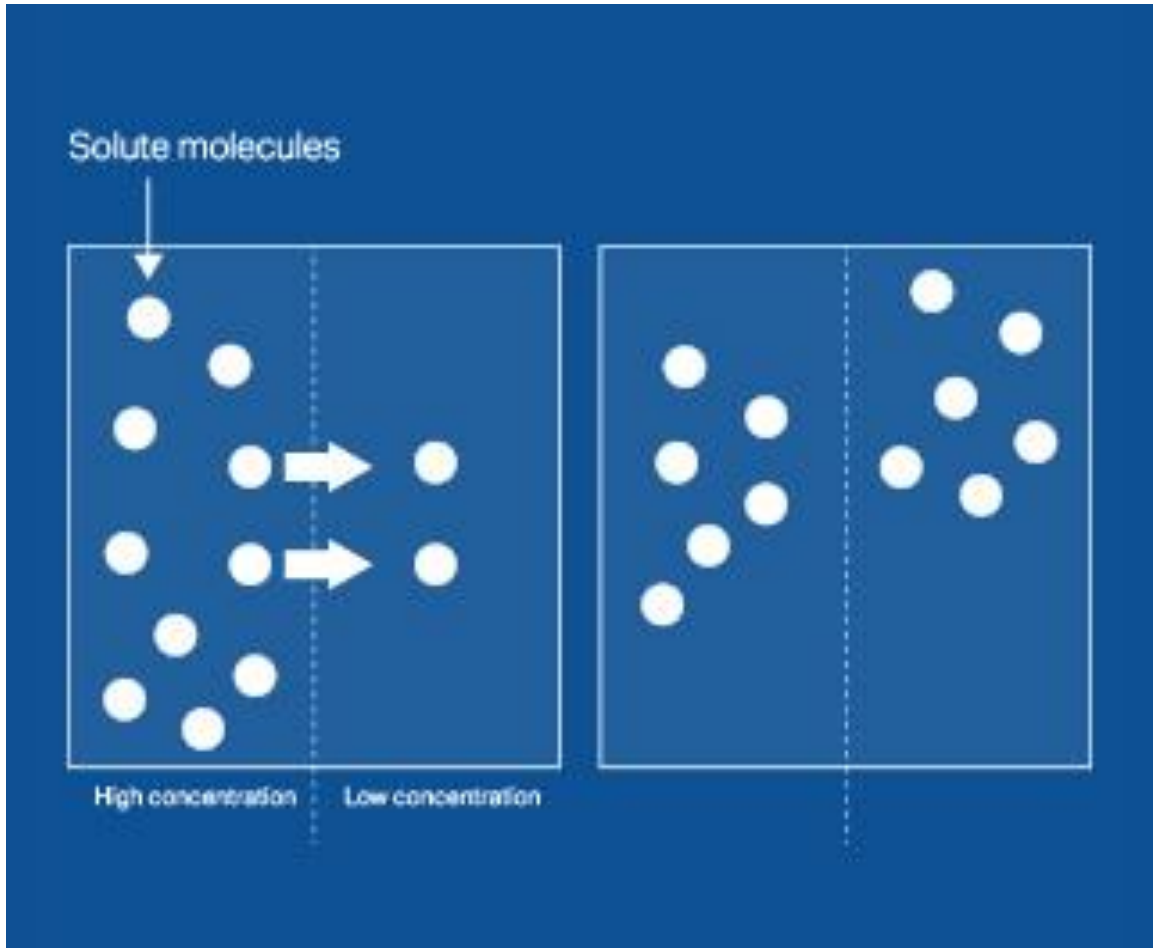
Diffusion

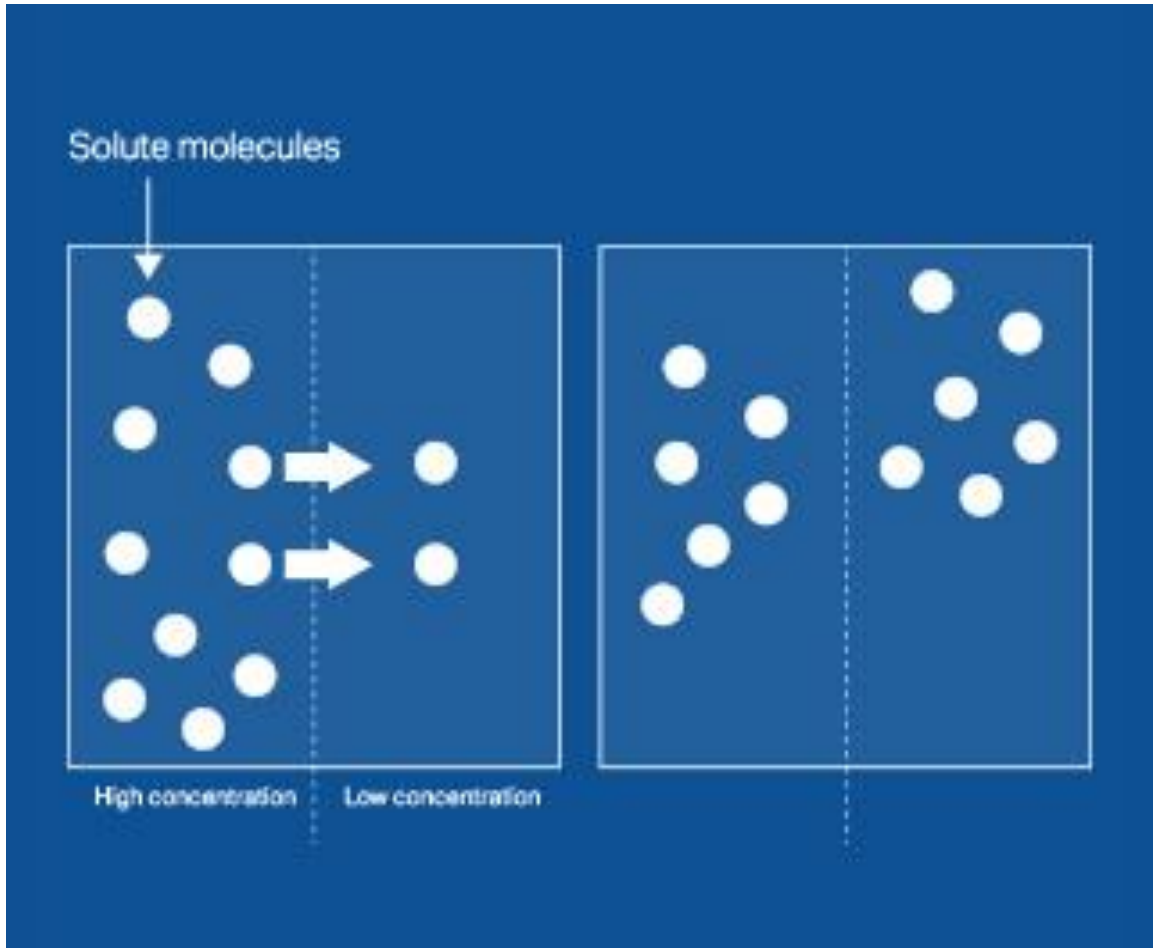
- During diffusion, particles in the areas of high concentration move towards the area of low concentration.
- In EBOO, waste in your blood moves towards gasses in the fibers that has no waste. The amount of waste removed depends on the size of the waste, the size of the pores (holes) in the membrane, and like a tea, the length of treatment.



(c) Dr. Brenden Cochran, NMD, FAAO

Diffusion

- The same principles apply with gasses, in this case oxygen and ozone. The gasses are in a higher concentration in the fibers compared to the concentration in the blood. The ozone and oxygen will pass through the fibers and enter the blood.



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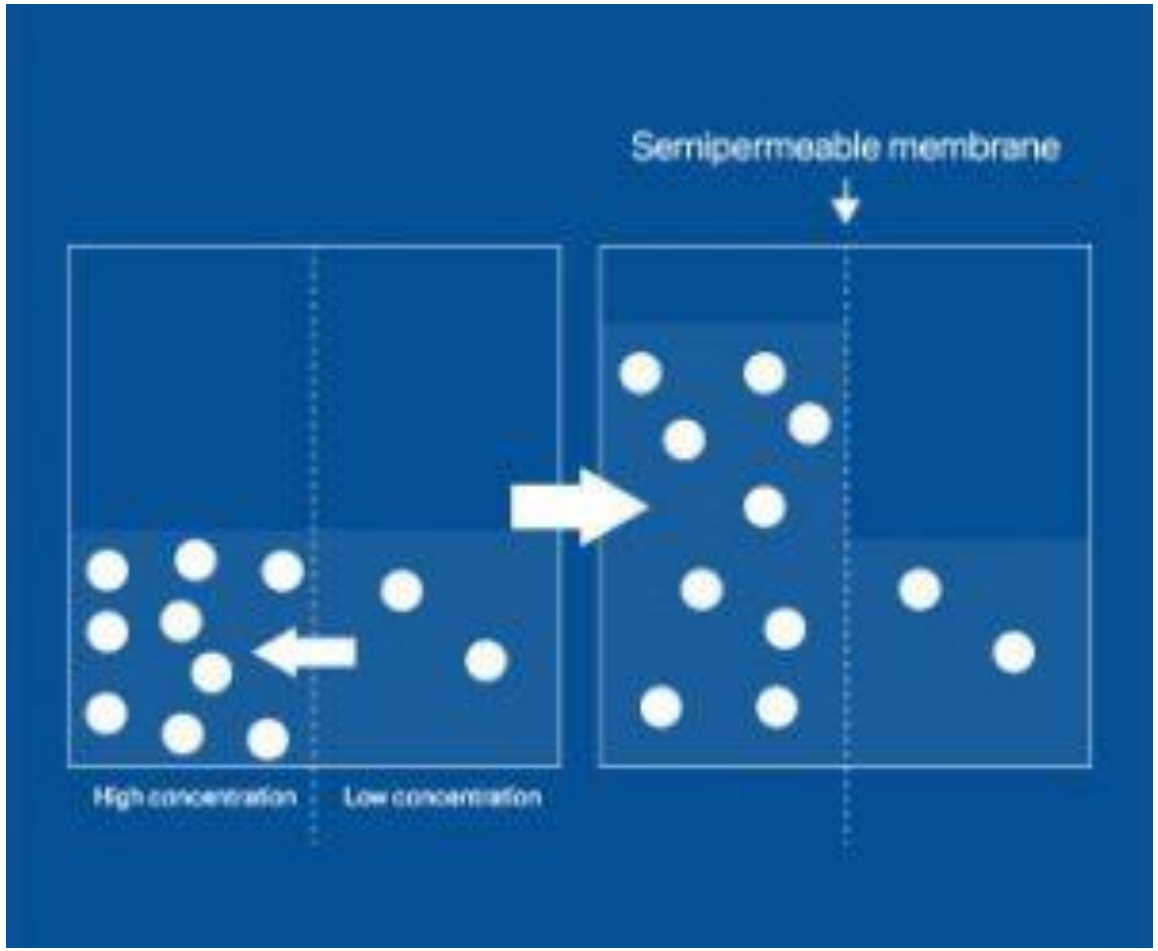
Osmosis

- During osmosis, fluid moves from areas of high waste concentration to lower waste concentration across a semi-permeable membrane until equilibrium.
- In EBOO, excess waste fluid moves from blood to the waste outlet through a membrane, in this case the hollow fibers, until the fluid level is the same between blood and waste canister.



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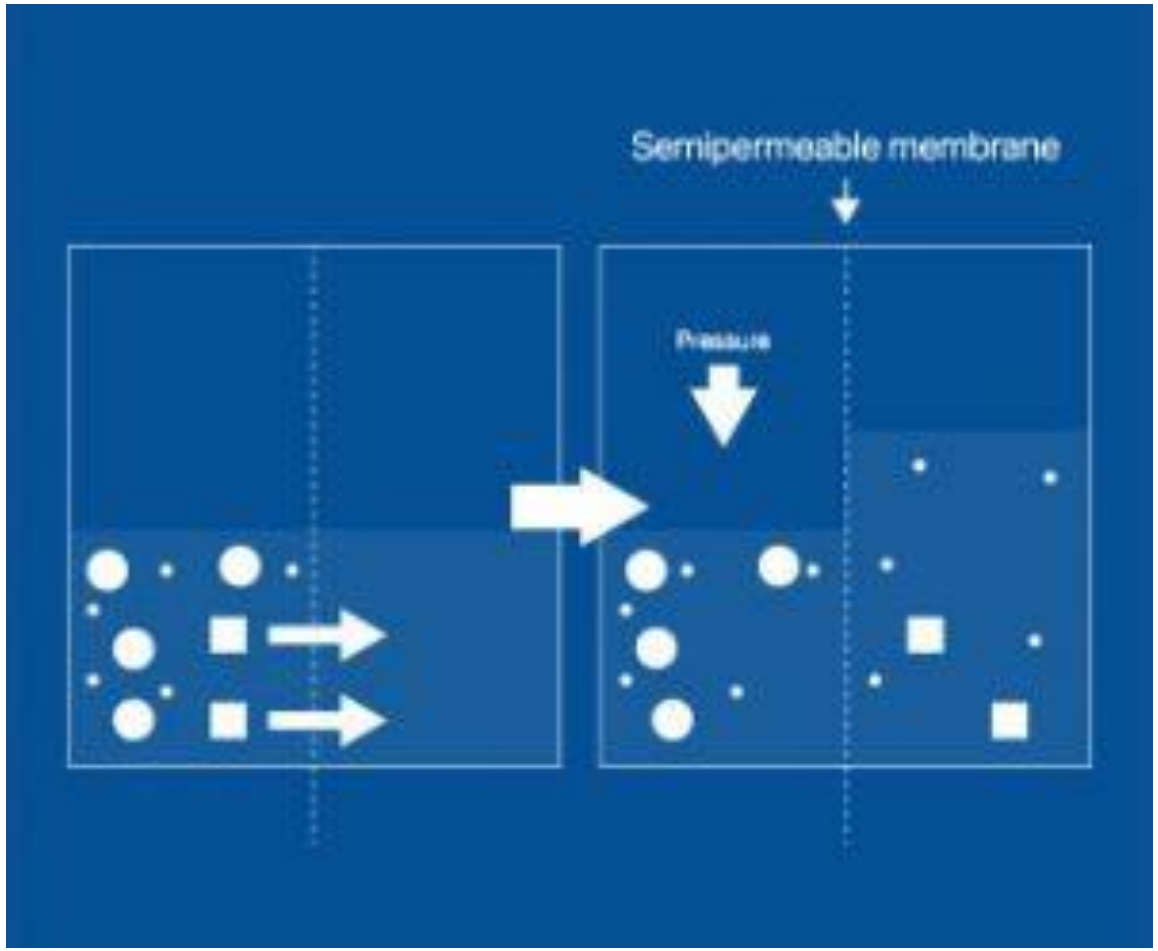
Ultrafiltration

- Ultrafiltration is the convective flow of blood and dissolved solute(waste fluid) down a pressure gradient caused by hydrostatic forces or osmotic forces.
- In EBOO, ultrafiltration removes molecules of waste and excess fluids from blood.



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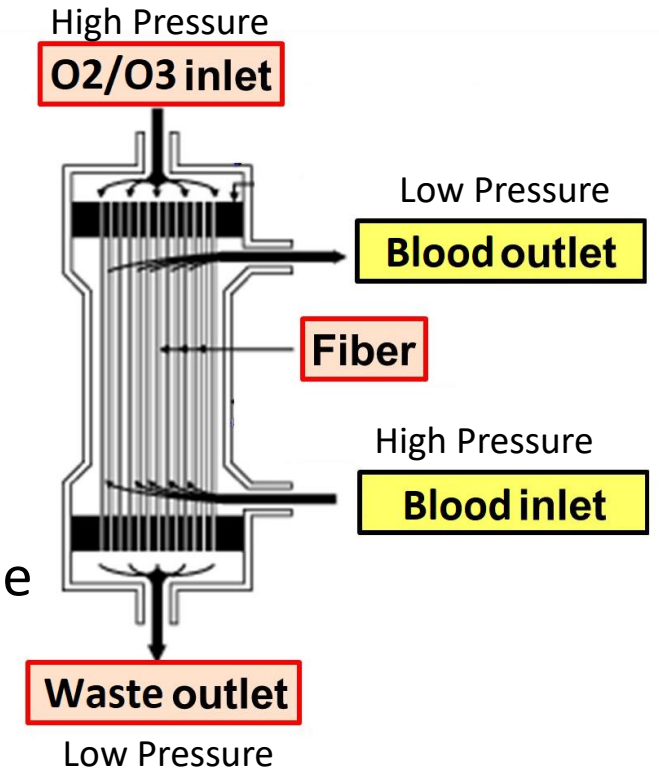
Mechanics of EBOO

- During an EBOO with the concentration set to 7 gamma, at 1LPM O2 the amount of ozone generated is 420,000 mcg.
- Through diffusion it can pass from the fibers into the blood.
- Through osmosis, diffusion, and ultra-filtration, the waste from the blood can pass through the fibers to exit through the waste outlet.



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Diffusion in Red Blood Cells

- Red blood cell's(RBC) primary purpose is to transfer oxygen from the lungs to the peripheral tissues of the body. Oxygen diffuses in the lungs into the RBCs to bind with the hemoglobin. One hemoglobin can bid with four molecules of O2.

- The partial pressure of the oxygen determines the affinity of hemoglobin for oxygen. If the partial pressure of the oxygen is high, then the hemoglobin will have a high affinity for it.

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Diffusion in Red Blood Cells

- Red blood cell's(RBC) primary purpose is to transfer oxygen from the lungs to the peripheral tissues of the body. Oxygen diffuses in the lungs into the RBCs to bind with the hemoglobin. One hemoglobin can bid with four molecules of O2.
- The partial pressure of the oxygen determines the affinity of hemoglobin for oxygen. If the partial pressure of the oxygen is high, then the hemoglobin will have a high affinity for it.
- The flow rates of the blood passing though the dialyzer will affect diffusion rates as well. There will be a change in time of exposure, as well as a change in amount of surface area contacted.

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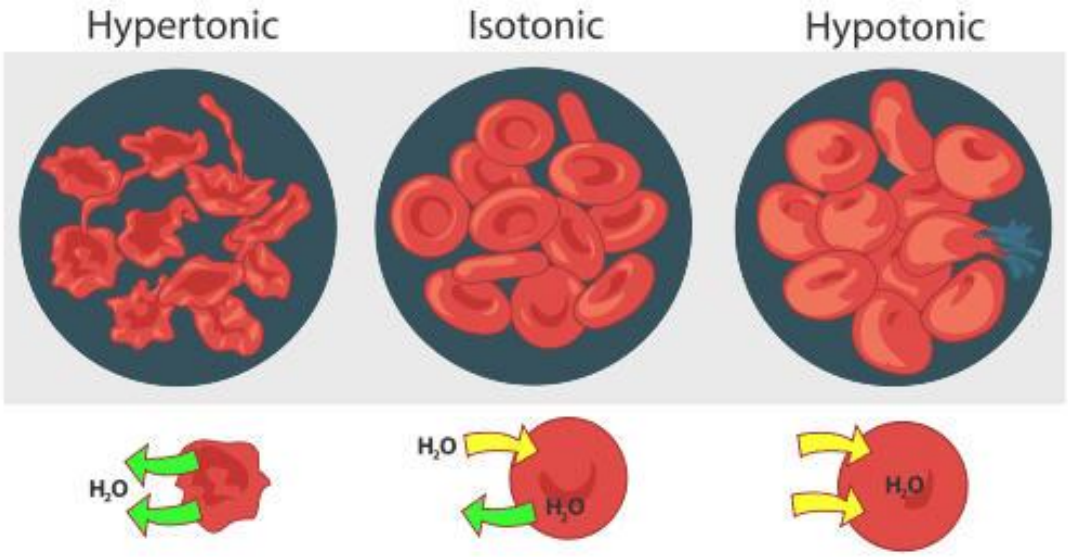
Hemolysis

- Hemolysis has been well understood in its relationship with water.
- RBC's in hypertonic(higher concentration) solutions will have the water flow out of the cells faster than it comes in, leading to crenation (shriveling).
- RBC's in hypotonic(lower concentration) solutions will have the water flow into the cells faster than it goes out, leading to hemolysis (bursting).
- Isotonic solutions are in equilibrium, and you will get neither of those reactions.



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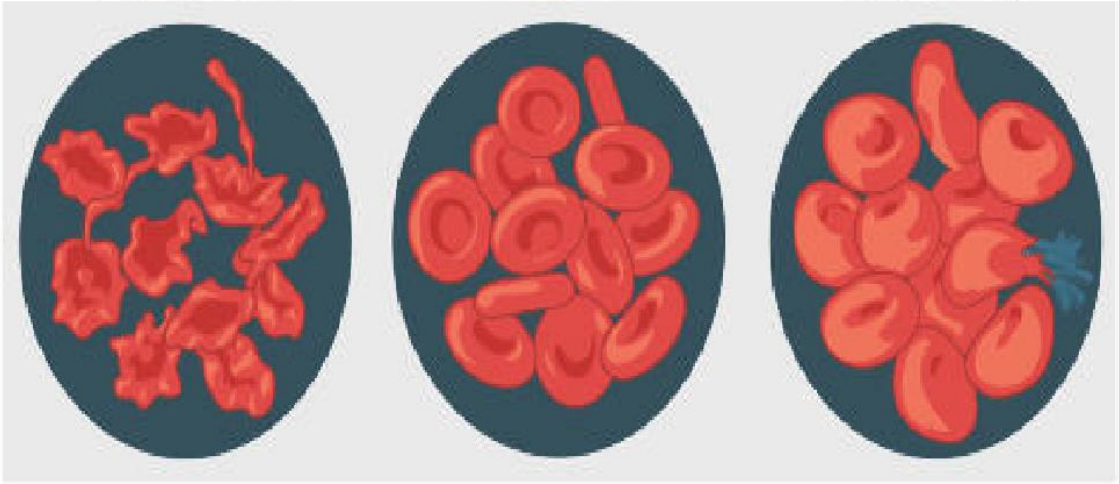
Hemolysis

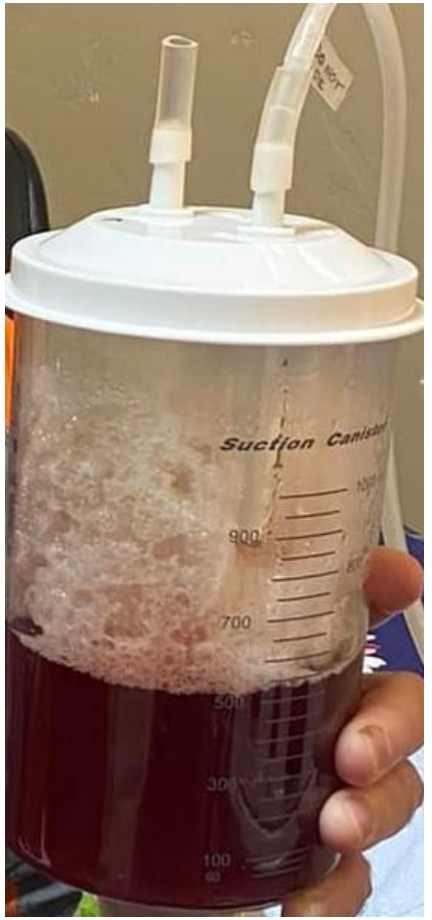
- Hemolysis has been well understood in its relationship with water.
- RBC's exposed to a low partial pressure of oxygen will not have an affinity to oxygen, leading to low blood oxygen.
- RBC's exposed to a high partial pressure of oxygen will have an affinity for oxygen, taking it in. In the case of ozone, if too much is available, the hemoglobin will attempt to bond with it, leading to hemolysis.
- The ideal state is equilibrium, where the blood is oxygenated, but not to the point of bursting.



(c) Dr. Brenden Cochran, NMD, FAAO

SHOULD NOT LOOK LIKE THIS!

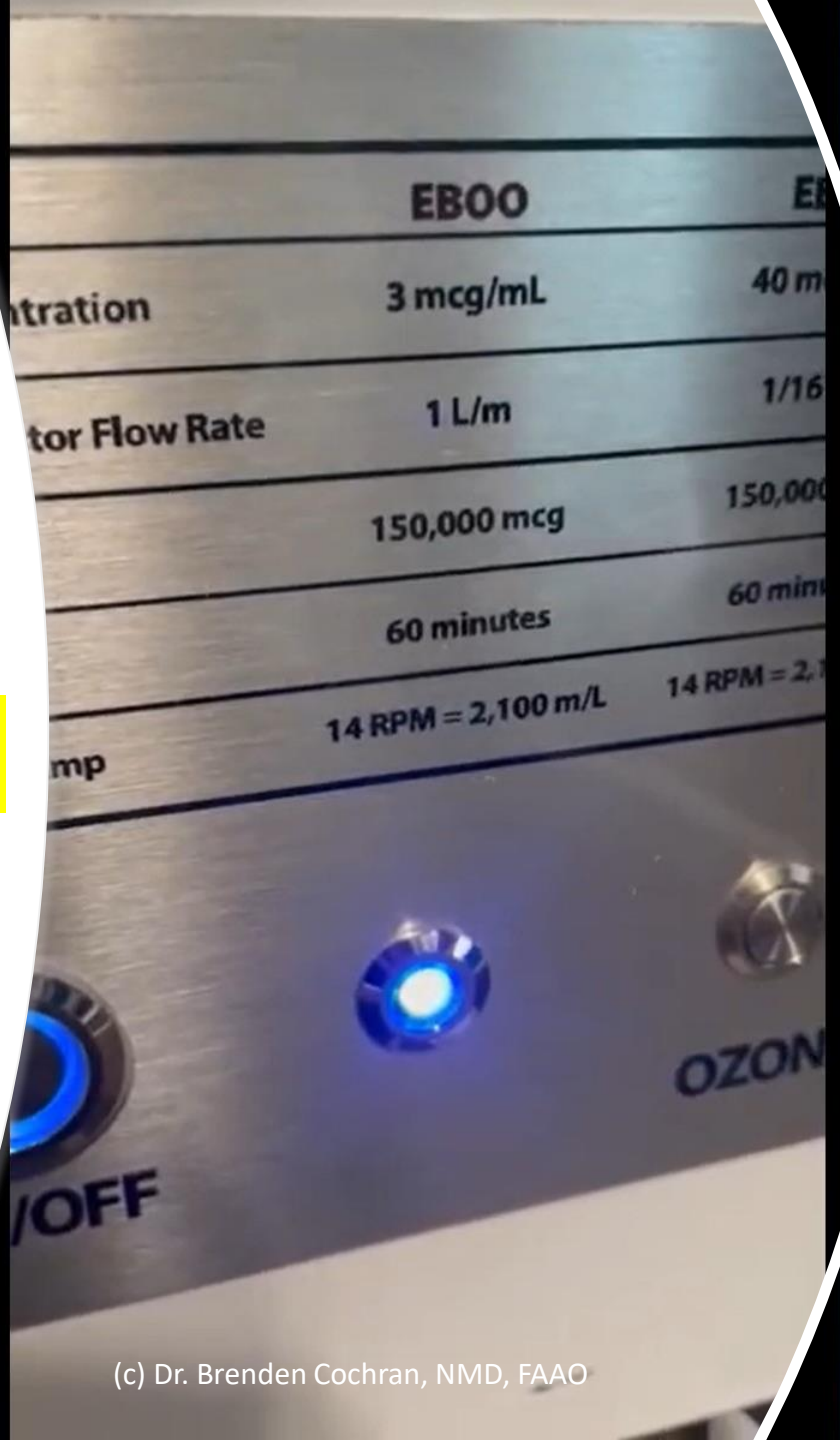
This is overtreatment OR TOO MUCH ozone used to cause lysis of cells!



(c) Dr. Brenden Cochran, NMD, FAAO

Are you sure your machine is producing what it says?

NOTE: All machines at 1 L/min



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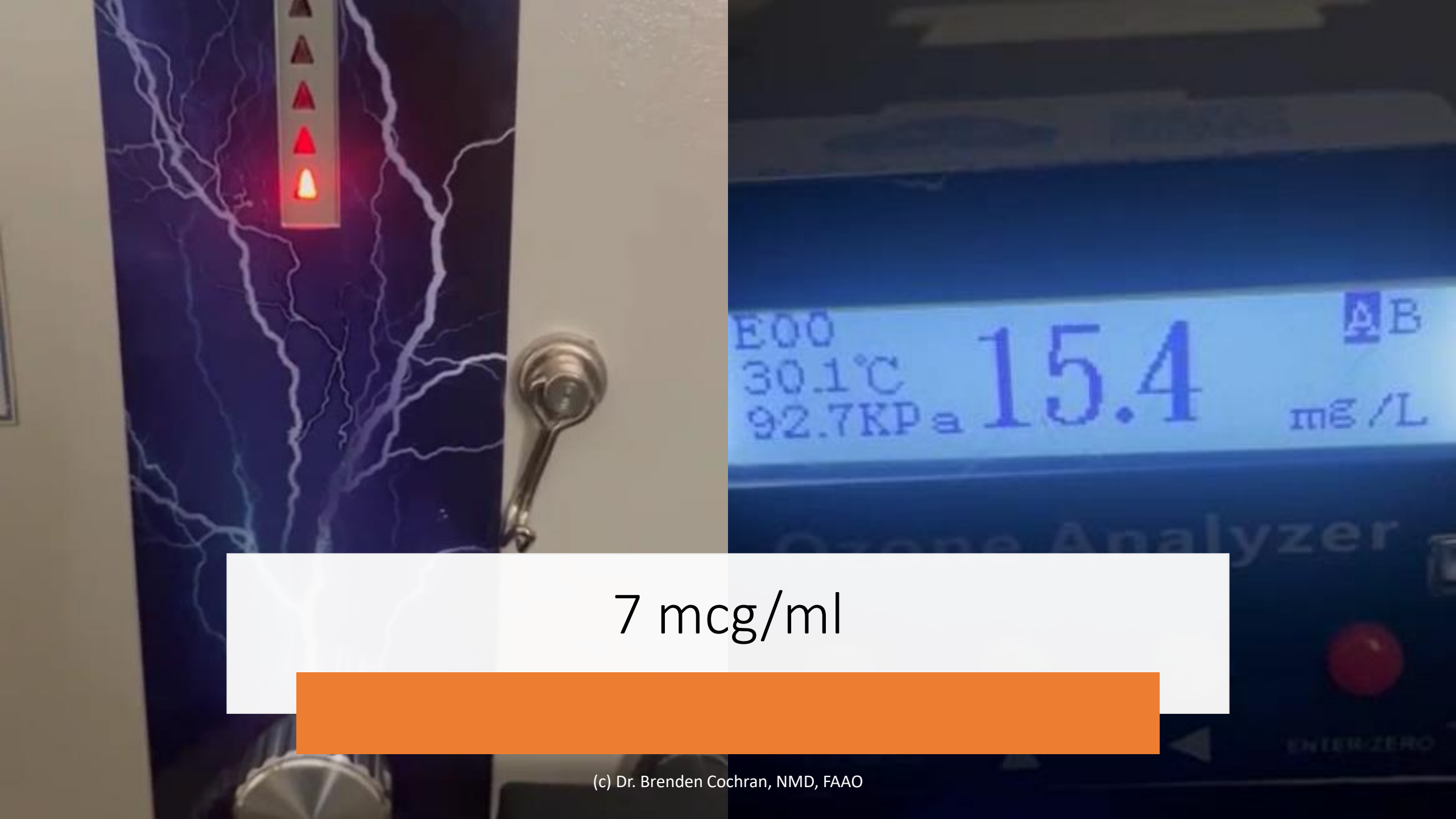

7 mcg/ml

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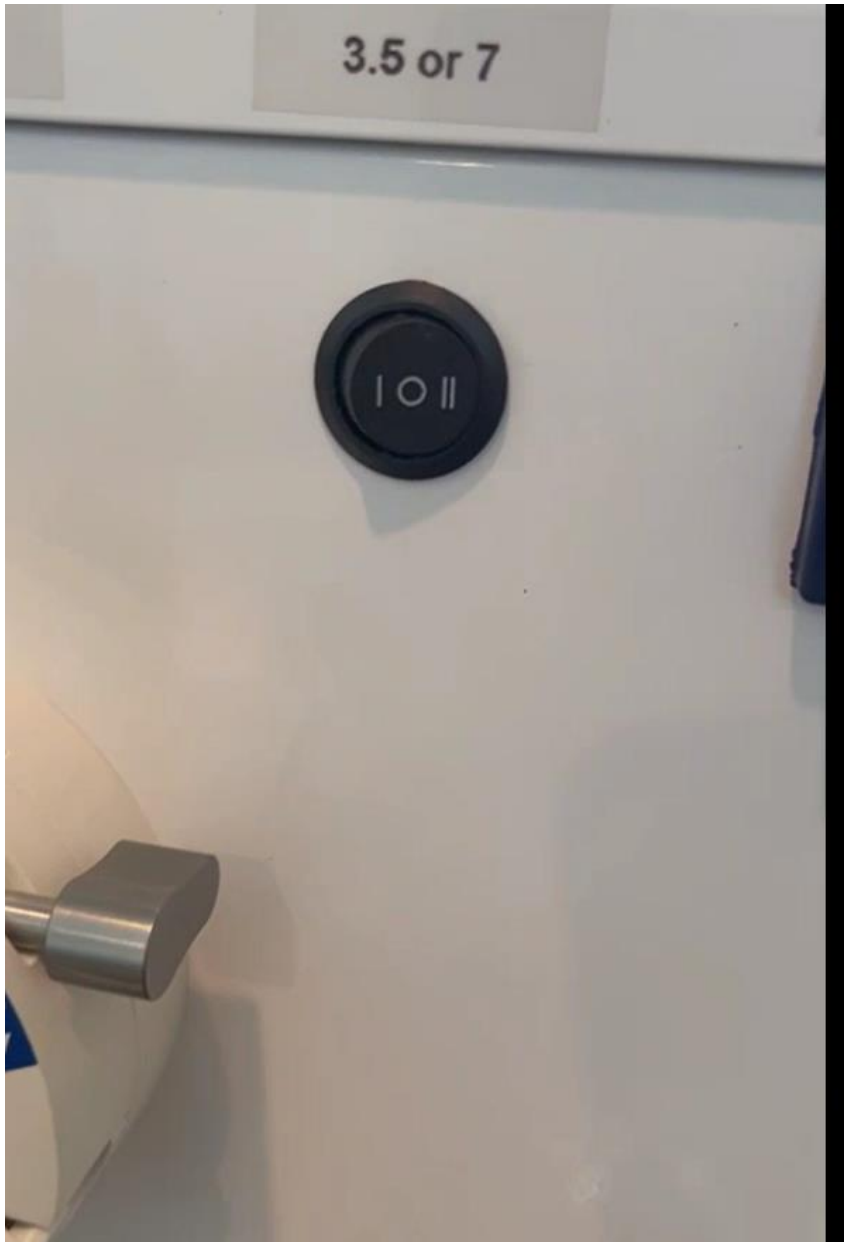

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Dosage

- With all the factors, finding out how much is the correct dose, let alone how much is not practical.
- What is known is how much is produced, and the duration of time.
- The amount of blood moved is determined by the motor speed, and the individual's viscosity of the blood. The needle size does not impact the volume flowed in a period.
- The dosage for a person is the concentration multiplied by the length of time. To calculate the concentration for blood treated, the volume of blood moved will need to be known.
- Counting the drops of blood will not work as the volume of a drop will vary person to person, depending on the properties of the blood itself.
- The viscosity, density, and surface tension of the fluid drop all affect its natural volume: these properties are related to hematocrit (the number of blood cells and particles in the drop), hydration levels, fluid temperature, and surface the drop forms upon.

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EBOO Dosage

STRATOS EBOO is able to maximize the amount of ozonation the blood can safely absorb.

Just how much is absorbed in a standard session? We set out to find the answer:

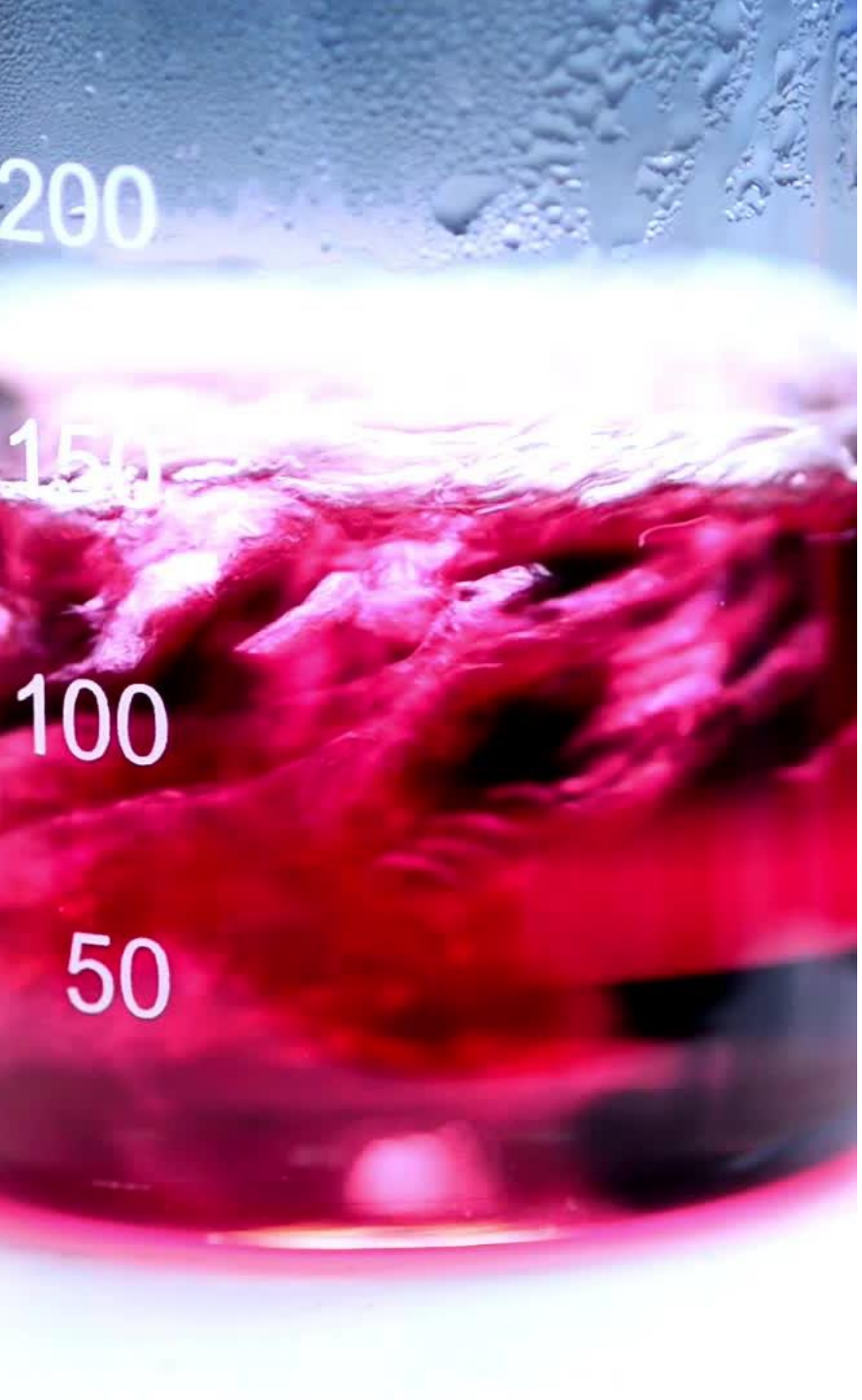
EBOO performed for one hour.

The ozone concentration was at 7 gamma, with the oxygen flow set to 1 LPM.

At 7 gamma, for 1 hour, at 1 LPM, 420,000 mcg of ozone is produced.

Samples were recorded for the duration that ozone that passed to the ozone destructor

© a. valdivieso,bsn



Dosage - Absorption

- The next part is the absorption, due to the nature of EBOO, some O3 will be expelled through the was waste outlet into the waste canister, and ultimately through the ozone destructor.
- The ozone that passes through to the blood, will react with lipids forming ozonides, as well as interact with the blood(remember the hemolysis slide, too much and there will be red blood cell bursting).
- The condition of the blood will determine how much of gradient exists between the oxygen content in the RBCs and in the incoming ozone gas. The specific condition and observations of the blood should determine the concentration applied.
- Ozone dosages are estimates, especially when it comes to figuring out absorption rates. The half-life of ozone is variable with temperature, pH, the partial pressure in relation to the RBC, and the amount of lipids present to name a few.

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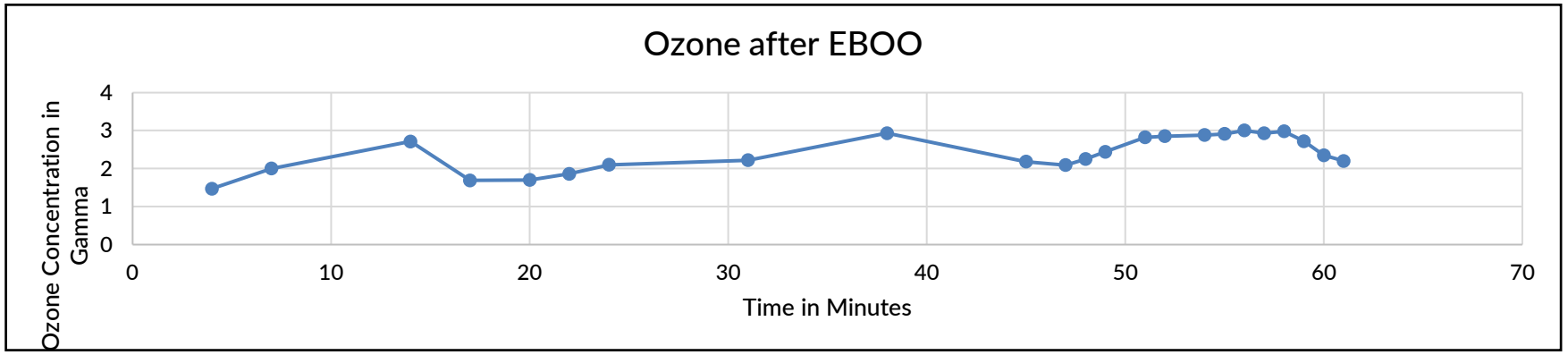
EBOO/F Quantity



At 7 gamma, for 1 hour, at 1 LPM, 420,000mcg of ozone is produced

2.403478261 gamma was the average reading for ozone concentration post-EBOO

At 2.40347 gamma on average, approximately. 144,208 mcg of ozone was not absorbed

Approximately 276,000 mcg of ozone was administered in one session

© a. valdivieso,bsn

More ozone better?

- More ozone can cause more problems in most ill patients
  - Too much immune stimulation
  - Too much cytokines
  - Too much die off
  - Overwhelming anti-oxidant buffering capacity

Picture from Nasha Winters, ND

(c) Dr. Brenden Cochran, NMD, FAAO

Treatments

Patient treatments will range from 1- 10 treatments depending on severity of illness.

NO MORE than 1 treatment per week.

Rarely will need to go beyond 5 treatments

“Gunk” will often bee seen in blood flow

This “Gunk” can be seen more after other detox support or IV chelation days before EBOO treatment.

EBOO should be considered a ProActive strategy to “filtering” and providing ozone/oxygenation to the body.

- Ideal schedule would be quarterly
- Consider this treatment similar to an “oil change” in your car. You are doing proactive changes to prevent the car from breaking down prematurely.

(c) Dr. Brenden Cochran, NMD, FAAO

(c) Dr. Brenden Cochran, NMD, FAAO

Pro Active schedule

Twice per year up to quarterly

(c) Dr. Brenden Cochran

Dangers

Too high concentration ozone, too much ozone.

- Immune stimulating (herx)
- Overwhelming toxicity elimination pathways
- Overwhelming body's homeostatic antioxidant buffering capacity
- Damaging cells

Infusions under pressure may cause air embolism

Not recommended to use machines that apply pressure

(c) Dr. Brenden Cochran

Absolute contraindications

G6PD deficiency (if using ozone)

Acute hemolytic anemia

Heparin allergy

(Wet filters)

- PEG allergy (Miralax)…Polyethylene Glycol

PEG FOUND IN FILTERS

HOUGHTON CHEMICAL CORPORATION
Head Office: 52 Cambridge Street, Allston, MA 02134
Tel: 617-254-1010 | Toll: 800-777-2466 | Fax: (617) 254-2713
www.houghton.com

HOUGHTON

GLYCOL ANALYSIS REPORT

COMPANY: TRIGEN O3	CONTACT: ANGIE VALDIVIESO	DATE: 23 MARCH 2023
PHONE: 480-241-5818	EMAIL: SUPPORT@TRIGENO3.COM	PROJECT #: HYD23034
*SAMPLE GROUP: KAWASUMI NAME: ID: REF #: (IF APPLIES)		SAMPLE #: 230435
*SPECIFIC SAMPLE: NAME: ID: REF #: RENAK 1500		*ANALYSIS: FULL ANALYSIS
*SYSTEM TYPE:	*GLYCOL TYPE: PROPYLENE	*APPROX. SYSTEM SIZE:
*GLYCOL BRAND:	*GLYCOL NAME:	ACCT MANAGER: CUSTOMER SERVICE

* Information listed here is copied as is from sample submittal form or label on sample bottle, see analysis below for confirmation

PROPERTIES EVALUATED	EXPECTED VALUES (BASED ON % OF GLYCOL)	RESULTS
% OF GLYCOL	30%	. 7%
TYPE OF GLYCOL	Propylene	Propylene
INDICATED FREEZE POINT (MAX)	+10°F	+31°F
pH	9.0 – 11.0	3.3
RESERVE ALKALINITY (MIN)	5.0 mL	0.0 mL
APPEARANCE		A clear, colorless fluid exhibiting a burnt glycol odor, and no observed sediment

Comments:
The fluid exhibits a concentration of about .7% Propylene glycol, indicating a freeze point of +31°F. The glycol concentration is below the minimum recommended to prevent bacterial growth. Hydronic fluids below 25% concentration of glycol are subject to bacterial growth/bio film fouling and do not provide adequate freeze/corrosion protection to the system. The pH is below the expected range and the Reserve Alkalinity is below the minimum expected value for a fluid of this type and concentration. The pH is acidic and the fluid may be causing damage to the system. This material is providing neither freeze nor corrosion protection to this system. The sample exhibits an odor reminiscent of burnt glycol and/or glycol degradation products. This material is unfit for use as a Hydronic Fluid and may be damaging equipment.

Recommendations:
Applying Houghton Chemical Corporation's test criteria, we recommend replacing this fluid. Drain the system, flush with water; inspect the system for damage, effect any necessary or desired repairs; clean the system with SECURITY® System Cleaner according to the product directions; and refill the system with SAFE-T-THERM® HD 30% premix. Be sure to flush with water again after cleaning and before refilling the system. If Ethylene glycol is desired, we recommend replacement with WINTREX® 30% premix.

Thank you for utilizing our lab testing services. Your account manager has been copied on these results and will follow up with you soon. If you have any questions, please feel free to contact our Laboratory at 617-254-1010.

Zach Anzalone
Laboratory Manager

Form Revision Date 26 October 2018

Manufacturers of Automotive Chemicals
And Heat Transfer Fluids.
Founded in 1927 by Philip A. Houghton

PEG FOUND AFTER DRAINING AND FLUSHING

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HOUGHTON

GLYCOL ANALYSIS REPORT

COMPANY: TRIGEN O3	CONTACT: ANGIE VALDIVIESO	DATE: 19 MAY 2023
PHONE: 480-241-5818	EMAIL: SUPPORT@TRIGENO3.COM	PROJECT #: HYD23054
*SAMPLE GROUP: PROPYLENE GLYCOL NAME: ID: REF #: (IF APPLIES)		SAMPLE #: 230512
*SPECIFIC SAMPLE: NAME: ID: REF #: PROPYLENE GLYCOL		*ANALYSIS: DETERMINE IF PG IS PRESENT
*SYSTEM TYPE:	*GLYCOL TYPE: PROPYLENE	*APPROX. SYSTEM SIZE: BOTTLE
*GLYCOL BRAND:	*GLYCOL NAME:	ACCT MANAGER: BRIAN HUGHES

* Information listed here is copied as is from sample submittal form or label on sample bottle, see analysis below for confirmation

PROPERTIES EVALUATED	RESULTS
% OF GLYCOL	<1%
TYPE OF GLYCOL	No glycol detected
INDICATED FREEZE POINT (MAX)	+32°F
pH	6.2
RESERVE ALKALINITY (MIN)	0.0 mL
APPEARANCE	A clear, colorless fluid exhibiting no objectionable odor, and no observed sediment

Comments:
The fluid exhibits either no glycol or an insufficient amount of glycol to detect by gas chromatography, indicating a freeze point of +32°F by optical refractometer. There was no glycol detected, therefore the flush seems to have been successful.

Thank you for utilizing our lab testing services. Your account manager has been copied on these results and will follow up with you soon. If you have any questions, please feel free to contact our Laboratory at 617-254-1010.

Zach Anzalone
Laboratory Manager

Form Revision Date 26 October 2018

Manufacturers of Automotive Chemicals
And Heat Transfer Fluids.
Founded in 1927 by Philip A. Houghton

(c) Dr. Brenden Cochran, NMD, FAAO

Relative contraindications only use in special situations

- Uncompensated diabetes
- Recent Acute myocardial infarction (within 6-8 weeks)
- Acute toxic hyperthyroidism
- Thrombocytopenia (< 50,000)
- Severe cardiovascular instability
- Acute alcohol intoxication
- Hemorrhage
- Convulsive states
- Hemochromatosis
- Active treatments giving copper or iron
- Pregnancy

(c) Dr. Brenden Cochran, NMD, FAAO

Pre Work up

History

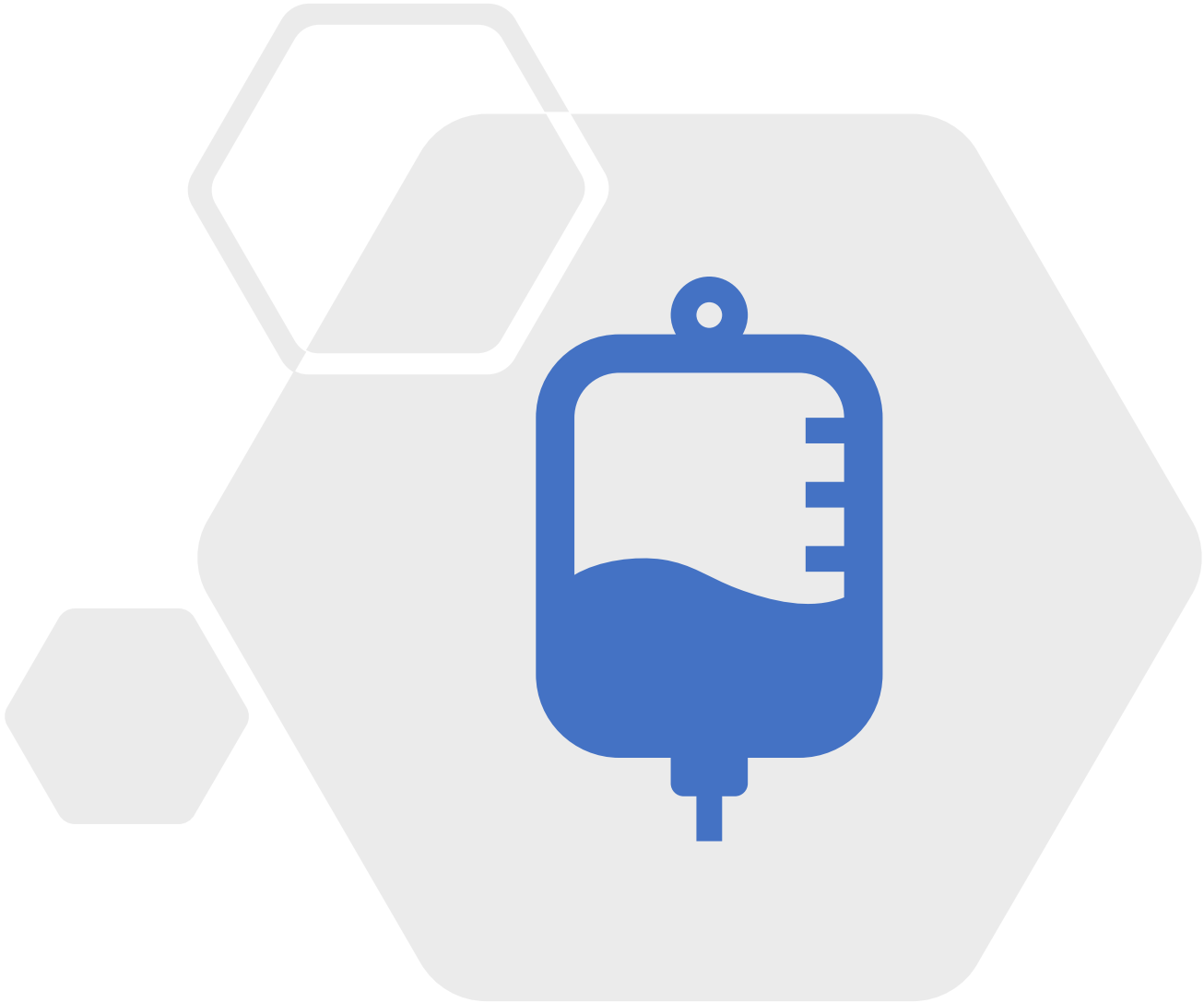
Physical Exam

History of bleeding disorders

Labs: (Within 4-6 weeks minimum, maybe sooner)

- **CBC**
  - **Plt > 130**
- **CMP**
- **Quantitative G6PD**
- Lipids
- *PTT, PT, INR (Highly recommended)*
- Possible clotting factors if suspect in history

Medications? And timing….



(c) Dr. Brenden Cochran, NMD, FAAO

Pre-Care

Skip supplements the morning of treatment

Take and 81 mg aspirin OR Neprinol AFD (2-3 caps)

- If patient is NOT on anti-coagulant therapy
- Poor circulators may need 1 hydrogen tablet in 8 ounces before treatment

Start hydrating 72 hours before procedure

NO FASTING. Eat well at least 1-2 hours before procedure.

No smoking day of procedure

No alcohol before the procedure

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Other Prep Considerations

Supplements we recommend to improve your experience:

(Starting 1 week before therapy)

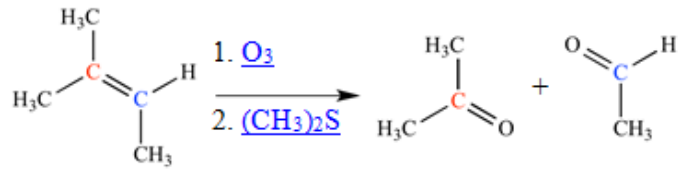
Vessel Forte (Designs for Health): 2 caps twice daily

Omega-3 fish oils (2000 mg)

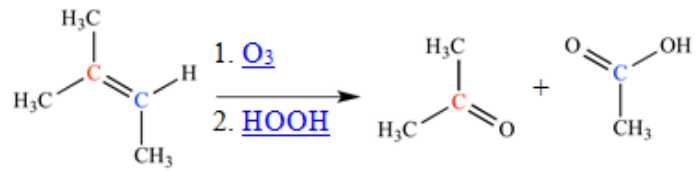
(c) Dr. Brenden Cochran, NMD, FAAO

Illustrated Glossary of Organic Chemistry

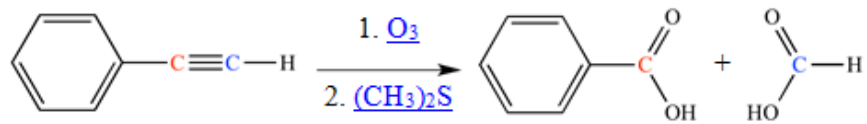
Ozonolysis: A reaction in which a carbon-carbon pi bond functional group reacts with ozone, resulting in oxidative cleavage. The reactant is usually an alkene or alkyne, but a benzene ring can also be made to react under forcing conditions.



In alkene ozonolysis with reductive workup, an alkene carbon bearing a hydrogen atom becomes an aldehyde, and an alkene carbon bearing two carbons becomes a ketone.



In alkene ozonolysis with oxidative workup, an alkene carbon bearing a hydrogen atom becomes a carboxylic acid, and an alkene carbon bearing two carbons becomes a ketone.



Alkyne ozonolysis converts each alkyne carbon to a carboxylic acid, regardless of reaction workup.

Alkene/Alkyne Drugs

Vitamin A
Acitretin
Alitretinoin
Methoxsalen
Adenosine
Naftifine
Tretinoin/Isotretinoin
Etretinate
Colesevelam
Zucapsaicin
Astaxanthin
Ketobemidone
Zeaxanthin
Lycopene
Piperine
Crocin
Terbinafine
Efavirenz
noretynodrel

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Post Care

Hydration + Electrolytes

Light foods

Leave compression bandage on for 2-4 hours

Leave heparin wrist band on until next morning

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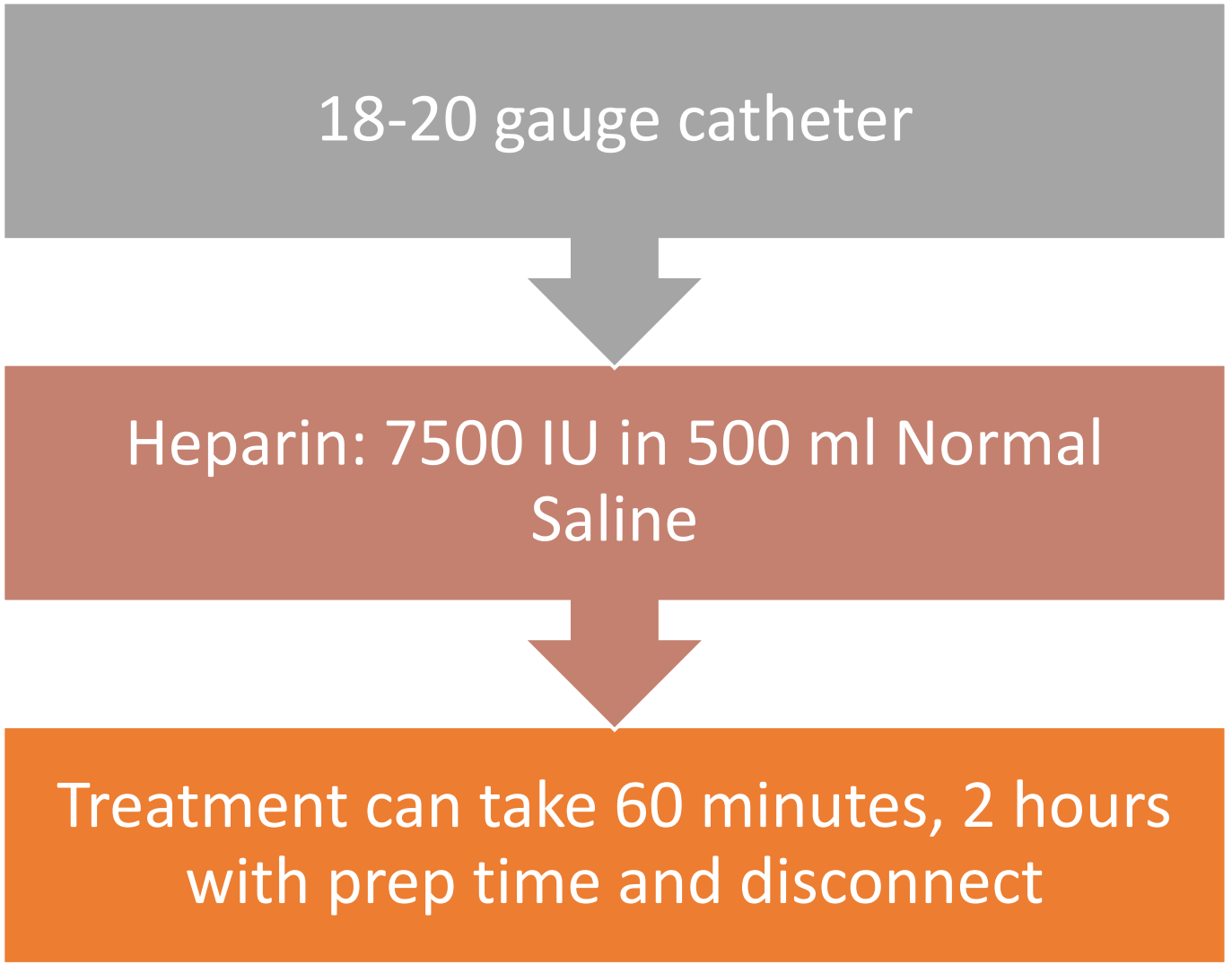
We record how much heparin patient recieved

(c) Dr. Brenden Cochran, NMD, FAAO

Administration



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Best Treatment

Start with first treatment only filtration and oxygen (5-10 minutes of 3 mcg/ml setting)

As tolerated then can ramp up to 7 mcg/ml ozone over the course of the hour treatment.

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End of treatment

- Commonly will hang a bag of 100 ml Normal Saline
  - B complex
  - B12 and/or NAD 50-100 mg
  - Methylene Blue
  - Lipoic Acid Mineral Complex (Poly MVA)
  - Biologic allograft as (IV Push and/or C-Shot)

(c) Dr. Brenden Cochran, NMD, FAAO

Depending on the individual patient's needs, this is a sample of Lyme protocol patients will do 3-5 weeks on average

Sample Program Schedule - Parasites – Mold – Lyme	
Week 1	
Day 1	Nutrient Bag with or without NAD + Phosphatidylcholine + Glutathione
Day 2	250ml N/S, Vitamin B-17/(Artemesinin OR Artesunate) (if available) with Vitamin C drip 25-50 gram
Day 3	Nutrient Bag with or without NAD + Phosphatidylcholine + Glutathione OR Chelation bag + Glutathione
Day 4	250ml N/S, Vitamin B-17 or (Artemesinin OR Artesunate) (if available) or Vitamin C 25-50 grams
Day 5	EBOO (followed by B complex, B-12 or LAMC) optional EXOSOMES/Biologic Allograft (optional)****FDA regulations concerning HCT/P 361 products must be adhered to.

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Depending on the individual patient's needs, this is a sample of

Post-Covid Long-haul or Vaccine Injury protocol patients will do 3-4 weeks on average

At home using (Topical Cyclodextrin-Glutathione spray daily, proteolytic enzymes, and bioflavonoids)

Sample Program Schedule – COVID long haul or Vaccine Injury	
Week 1	
Day 1	Nutrient Bag with or without NAD + Phosphatidylcholine + Glutathione (HBOT 2 ATM)
Day 2	IV Methylene Blue with Light therapy 820 nm/620 nm
Day 3	Nutrient Bag with or without NAD + LAMC + Glutathione (HBOT 2 ATM)
Day 4	250ml N/S, (Artemesinin OR Artesunate) (if available) or Vitamin C 25-50 grams (HBOT 2 ATM)
Day 5	EBOO (followed by B complex, B-12 or LAMC) optional EXOSOMES/Biologic Allograft (optional)****FDA regulations concerning HCT/P 361 products must be adhered to.

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Depending on the individual patient's needs, this is a sample of Cardio/Endothelial Support protocol patients will do 6-8 weeks on average then re-evaluate

Sample Program Schedule	
Week 1	
Day 1	Chelation bag with NaEDTA + Glutathione
Day 2	Remineralization IV
Day 3	Chelation bag with NaEDTA + Glutathione
Day 4	Phosphatidylcholine + Glutathione
Day 5	EBOO (followed with LAMC) optional EXOSOMES/Biologic Allograft (optional)****FDA regulations concerning HCT/P 361 products must be adhered to.

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Depending on the individual patient's needs, this is a sample of Oncology Support protocol patients will do 6-8 weeks on average then re-evaluate

Sample Program Schedule	
Week 1	
Day 1	Nutrient Bag + LAMC+ IV Mistletoe
Day 2	250ml N/S, Vitamin B-17 or Artesunate (if available) with Vitamin C drip 50-100 gram
Day 3	IV Mistletoe OR Phosphatidylcholine
Day 4	250ml N/S, Vitamin B-17 or Artesunate (if available) with Vitamin C 50-100 grams
Day 5	EBOO (followed with LAMC) optional EXOSOMES/Biologic Allograft (optional)****FDA regulations concerning HCT/P 361 products must be adhered to.

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Depending on the individual patient's needs, this is a sample of Neuro-Inflammation protocol patients will do 3-5 weeks on average

Sample Program Schedule – Neuroinflammation	
Week 1	
Day 1	Nutrient Bag (Neuro) + Phosphatidylcholine + Glutathione
Day 2	LAMC 5 to 40 ml
Day 3	Nutrient Bag + Phosphatidylcholine + Glutathione
Day 4	Curcumin 200-400 mg
Day 5	EBOO (followed by B complex, B-12 or LAMC) optional EXOSOMES/Biologic Allograft (optional)****FDA regulations concerning HCT/P 361 products must be adhered to.

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Rx: Nutrient

Total Volume: 277 mL **Osmolarity: 286 mOsm/L**

	250 mL	Sterile Water		2 mL	Taurine (50 m/ml)
	10 mL	Ascorbic Acid (500 mg/ml)		2 ml	Dexpanthenol (250 mg/ml)
	4 mL	Magnesium Chloride 200 mg/ml		5 ml	8.4% Na Bicarbonate
	1 ml	Calcium Chloride 100 mg/ml		1 ml	Pyridoxine (100 mg/ml)
	1 ml	B-Complex		1 ml	Hydroxocobalamin 5 mg/ml

Infusion Time: 45-60 minutes

***** Caution: Parabens, Aluminum and Benzyl Alcohol can be found in injectables and can flare patients**

(c) Dr. Brenden Cochran, NMD, FAAO

Rx: Neuro-Inflammation Support

Total Volume: 302 mL **Osmolarity: 501 mOsm/L**

	250 mL	Sterile Water			
	20 mL	Ascorbic Acid (10 grams)		5 mL	Dexpanthenol (250 mg/ml)
	4 mL	Magnesium Sulfate 500 mg/ml		3 ml	8.4% Na Bicarbonate
	1 ml	Calcium Gluconate 100 mg/ml		2 ml	Thiamin (100 mg/ml)
	1 ml	Potassium Chloride 2 mEg/ml		1 ml	Hydroxocobalamin 5 mg/ml
	5 ml	Glycine (50 mg/ml)		10 ml	Taurine (50 mg/ml)
	1 ml	B Complex			

Infusion Time: 45-75 minutes

***** Caution: Parabens, Aluminum and Benzyl Alcohol can be found in injectables and can flare patients**

(c) Dr. Brenden Cochran, NMD, FAAO

Rx: Chelation bag NaEDTA

Total Volume: 557 mL **Osmolarity: 304 mOsm/L**

	500 mL	Sterile Water			
	15 mL	Ascorbic Acid (500 mg/ml)		2 mL	Dexpanthenol (250 mg/ml)
	2 mL	Magnesium Sulfate 500 mg/ml		15 ml	8.4% Na Bicarbonate
	10-15 ml	Disodium EDTA (150 mg/ml)		1 ml	Pyridoxine (100 mg/ml)
	2 ml	Potassium Chloride 2 mEg/ml		1 ml	Hydroxocobalamin 5 mg/ml
	2 ml	B Complex		2 ml	Taurine (50 mg/ml)

Infusion Time: 120 - 180 minutes

Note EDTA calculations can be changed based on body weight and kidney function.

Do not run faster than 2 hours with NaEDTA.

You can use CaEDTA in smaller bag 250 ml, and run over 90 minutes

***** Caution: Parabens, Aluminum and Benzyl Alcohol can be found in injectables and can flare patients**

(c) Dr. Brenden Cochran, NMD, FAAO

Rx: Remineralization

Total Volume: 570 mL **Osmolarity: 297 mOsm/L**

	500 mL	Sterile Water		1 ml	MTE
	10 mL	Ascorbic Acid (500 mg/ml)		2 mL	Dexpanthenol (250 mg/ml)
	5 mL	Magnesium Sulfate 500 mg/ml		3 ml	8.4% Na Bicarbonate
	10 ml	Calcium Gluconate 100 mg/ml		1 ml	Selenium (200 mcg/ml)
	5 ml	Potassium Chloride 2 mEg/ml		1 ml	Hydroxocobalamin 5 mg/ml
				6 ml	Taurine (50 mg/ml)
	3 ml	B Complex		1 ml	Zinc Chloride or Sulfate (10 mg/ml)
	25 ml	Sodium Bicarbonate 8.4%			

Infusion Time: 60-90 minutes

***** Caution: Parabens, Aluminum and Benzyl Alcohol can be found in injectables and can flare patients**

(c) Dr. Brenden Cochran, NMD, FAAO

Phosphatidylcholine

Nutrient	mg/mL	mL	mOsm/mL	mOsm*vol
1. PTC	35-50 mg	**	0.3	
2. D5W 5% Dextrose in Water (Most are also stable in 0.9% Normal Saline		250-500	0.25	
Totals:		**----**		———

Est. Treatment time: 1.5 hours **Desired drip rate: 3-4 mL/min**
Final osmolarity: Approx. Iso-osmolar

Technical notes:

1.This solution may be cloudy. Make sure PTC and D5W are both at room temperature before mixing, this will reduce the tendency to any cloudy precipitate

2.Glutathione should be diluted with an equal volume SWI USP and mixed well prior to push. **Start with 600 mg and increment dose to a maximum of 3600 mg.**

3.For cardiovascular, liver and neurologic disease use the schedule below.

Treatment No 1: 10 mL PTC

Treatment No 2: 17.5 mL PTC

Treatment No 3-20: 25 mL PTC

(c) Dr. Brenden Cochran, NMD, FAAO

Rx: 25 Gram IVC

	500 mL	**SWI**	
	50 mL	**C-500 (25 grams)**	
	1	**Calcium Chloride (1.36 mEq)**	
	2	**Magnesium Chloride (3.94 mEq)**	
	1	**Potassium Chloride (2 mEq)**	

Total Volume: 554 mL **Osmolarity: 545 mOsm/L**

Est. Treatment time: 1.5-2.5 hours

(c) Dr. Brenden Cochran, NMD, FAAO

Rx: 50 Gram IVC

500 mL	SWI
100 mL	C-500 (50 Grams)
3	Calcium Chloride (4.08 mEq)
5	Magnesium Chloride (9.85 mEq)
4	Potassium Chloride (8 mEq)

Total Volume: 612 mL Osmolarity: 1001 mOsm/L

Est. Treatment time: 2-3 hours

(c) Dr. Brenden Cochran, NMD, FAAO

Rx: 75 Gram IVC

750 mL	SWI
150 mL	C-500 (75 grams)
4	Calcium Chloride (5.44 mEq)
7	Magnesium Chloride (13.79 mEq)
6	Potassium Chloride (12 mEq)

Total Volume: 917 mL Osmolarity: 1006 mOsm/L

Est. Treatment time: 3-4 hours

(c) Dr. Brenden Cochran, NMD, FAAO

Rx: 100 Gram IVC

1000 mL	SWI
200 mL	C-500 (100 Grams)
5	Calcium Chloride (6.8 mEq)
10	Magnesium Chloride (19.7 mEq)
8	Potassium Chloride (16 mEq)

Total Volume: 1223 mL Osmolarity: 1007 mOsm/L

Est. Treatment time: 3-4 hours

(c) Dr. Brenden Cochran, NMD, FAAO

Treatment Combo

Some combined with UBI or Hemealumen

(c) Dr. Brenden Cochran, NMD, FAAO