

Laser Treatments: An Update

Craig N. Burkhart, MS, MD

Associate Professor

Department of Dermatology

The University of North Carolina at Chapel Hill

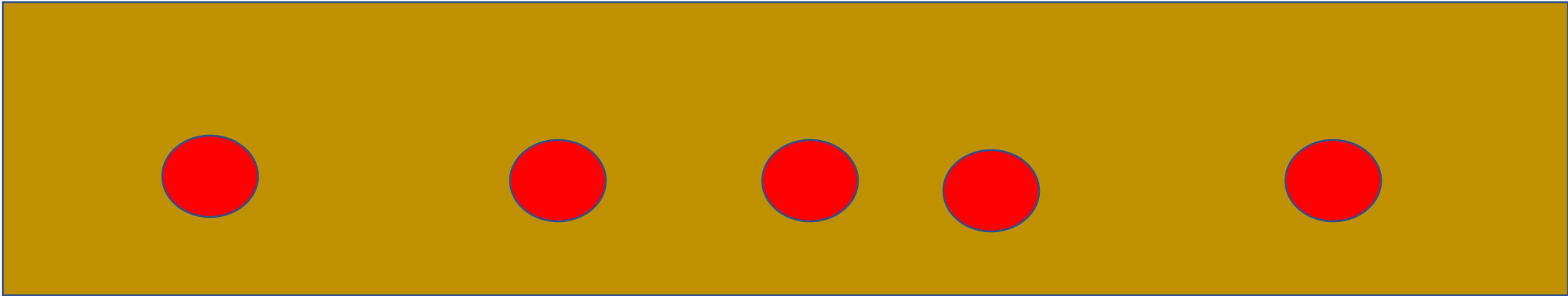
Introduction

- www.ClinicalTrials.gov

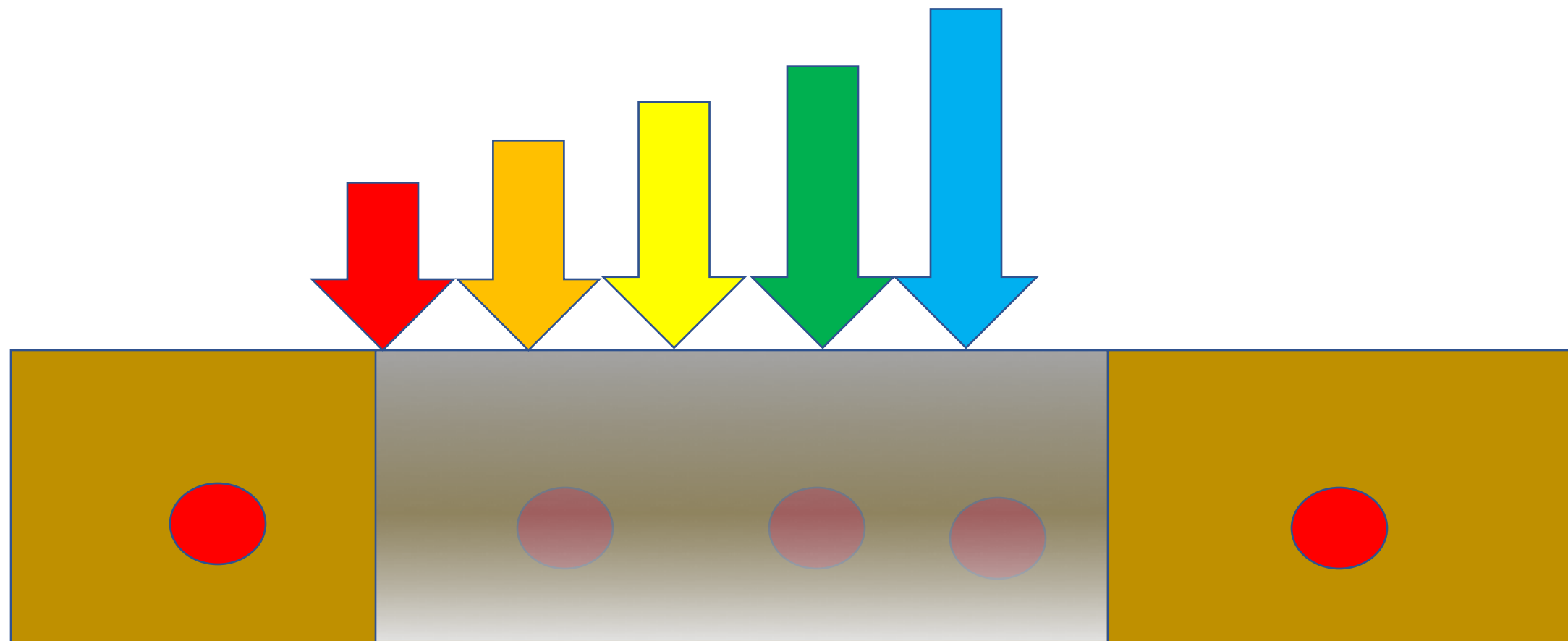
Types of Clinical Trials

- Visible light lasers
- Fractionated lasers and devices
- Photodynamic Therapy
- Drug Repurposing
- Predicting and measuring response to therapy

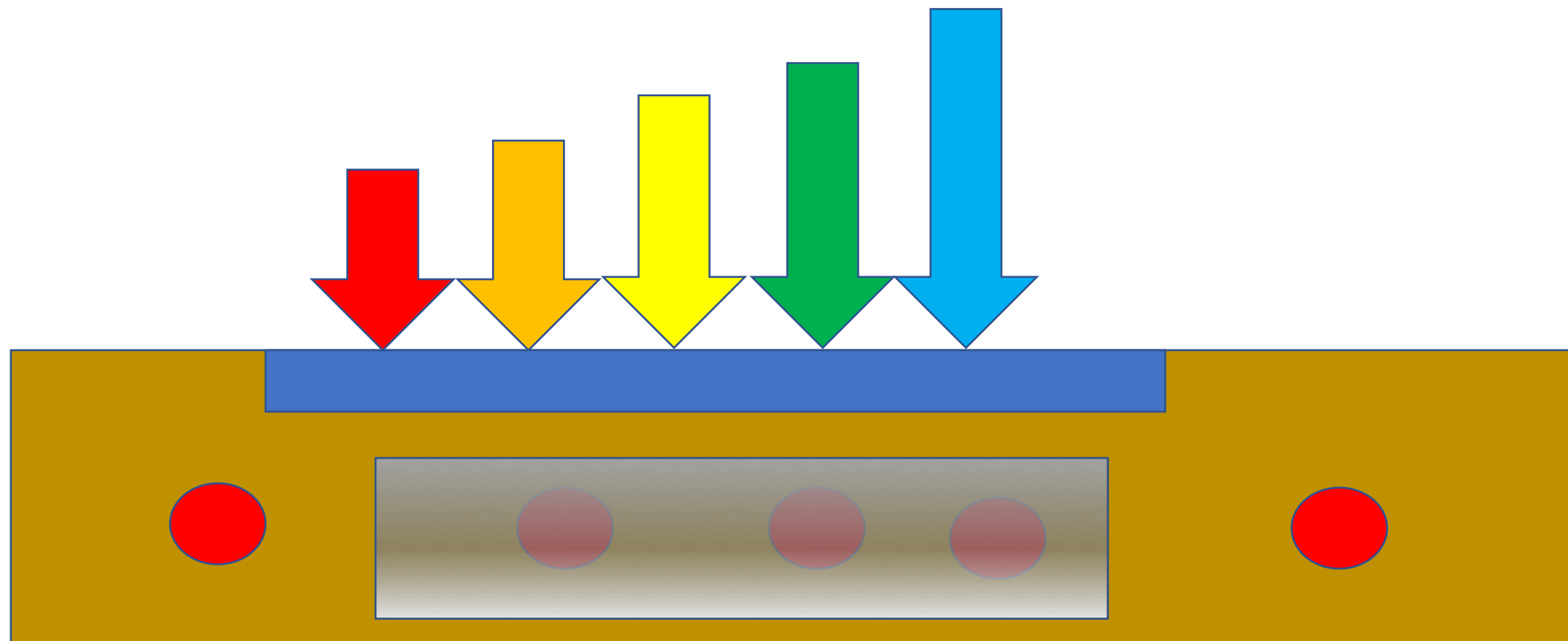
Skin with vessels inside it



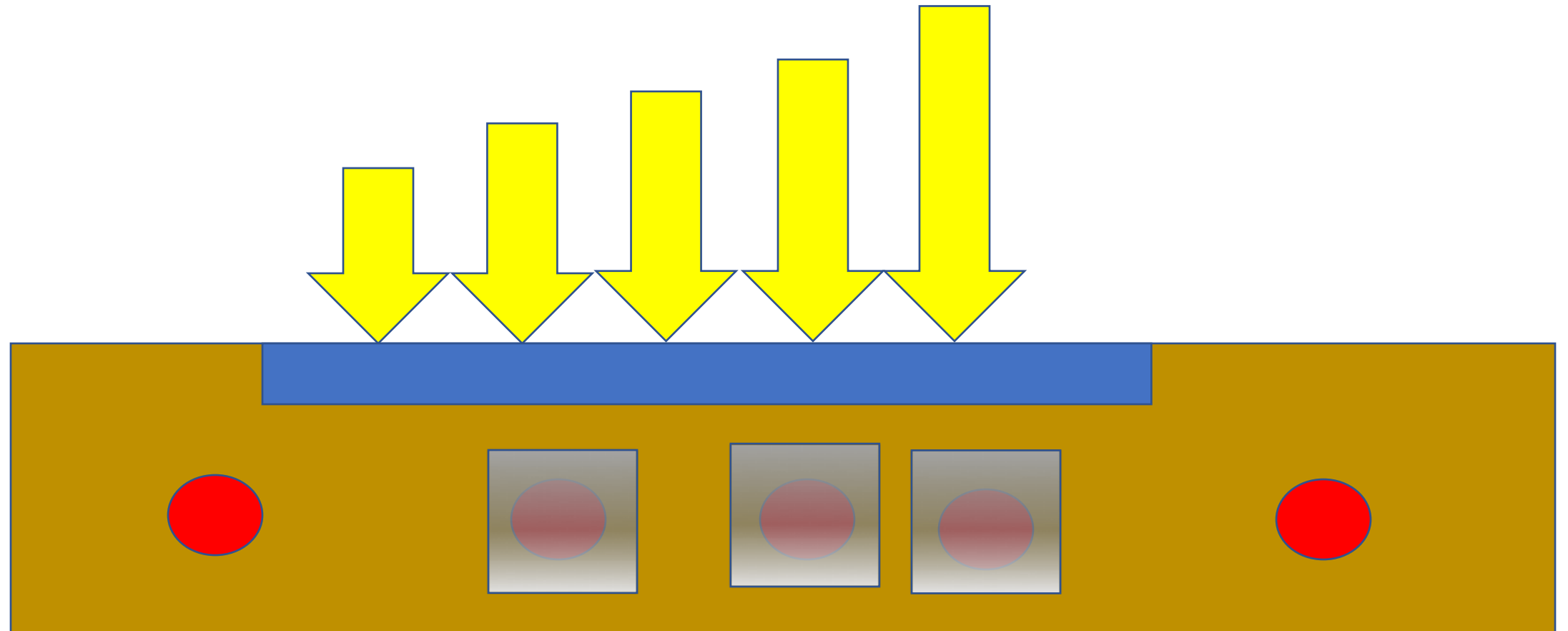
Intense light



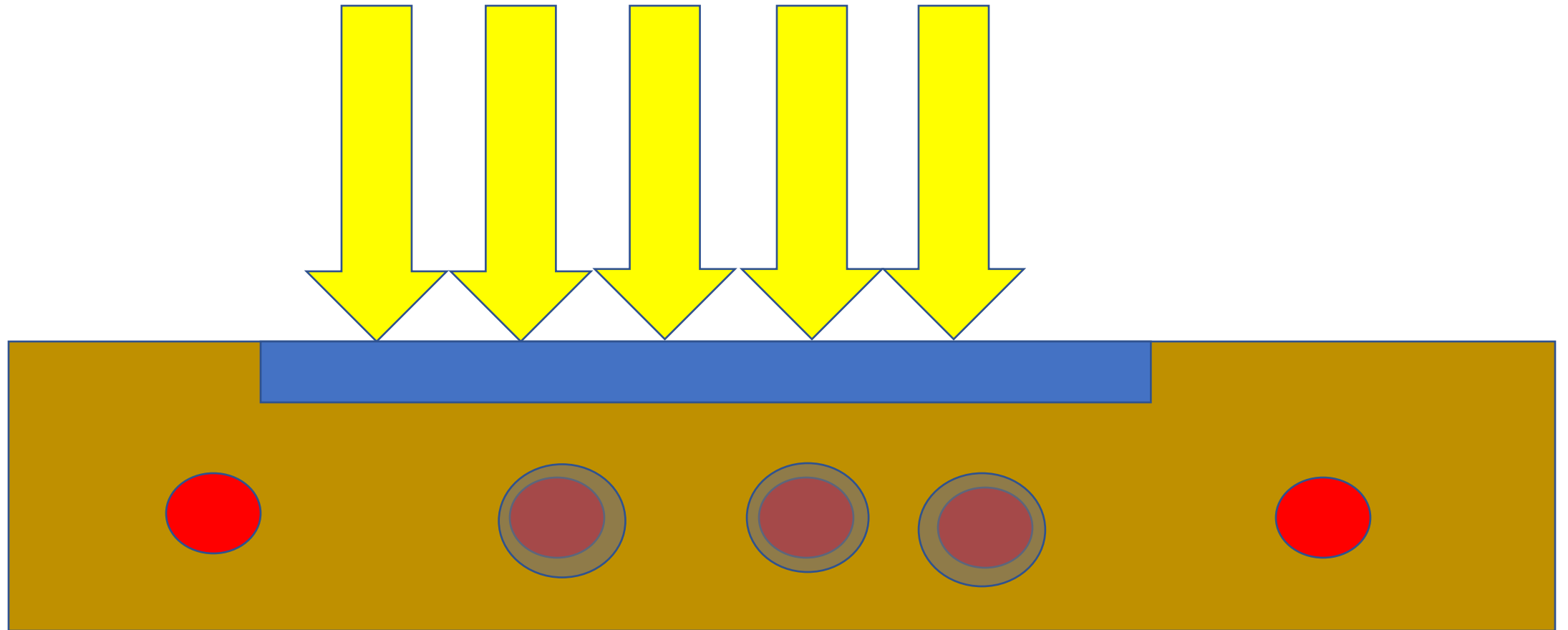
Intense light with cooling



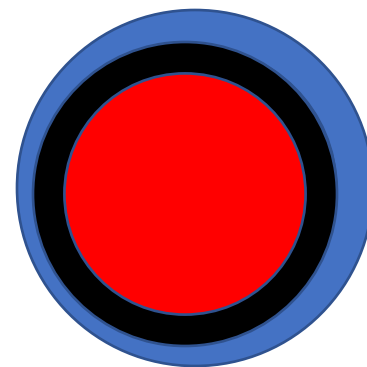
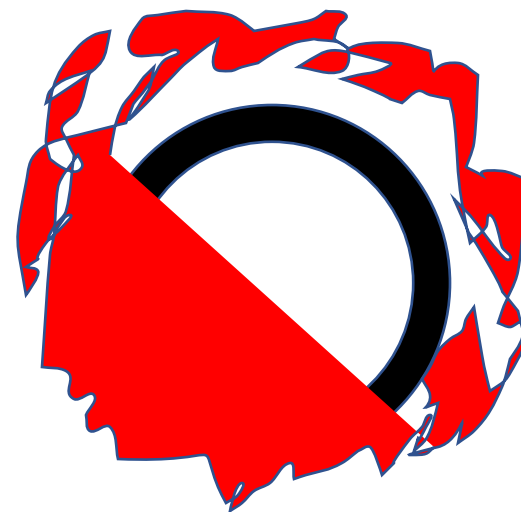
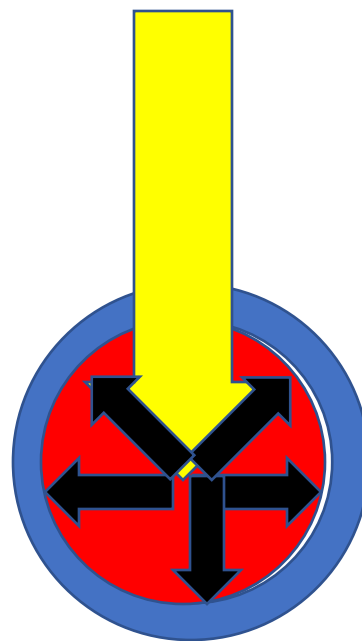
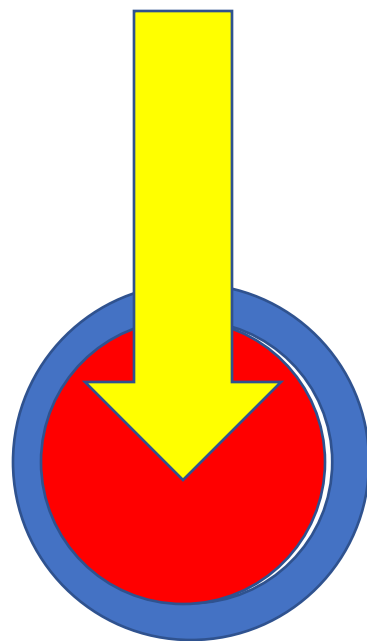
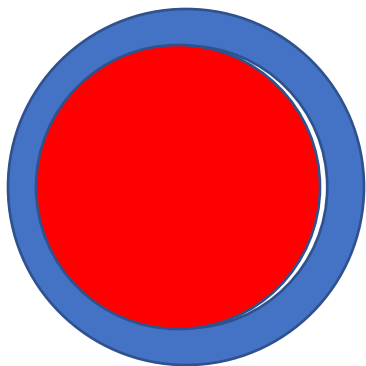
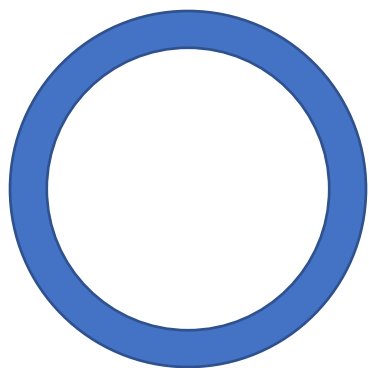
Intense specific light with cooling



Intense specific light for a specific time with cooling



Looking closer at the vessel



Why Use Different Visible Light Lasers?

- Maybe the abnormal vessels absorb energy better at a different wavelength
- Maybe the abnormal vessels are deeper than can be reached by the typical wavelength
- Maybe the surrounding skin is better protected by using different wavelengths
- Maybe a different wavelength will work better.

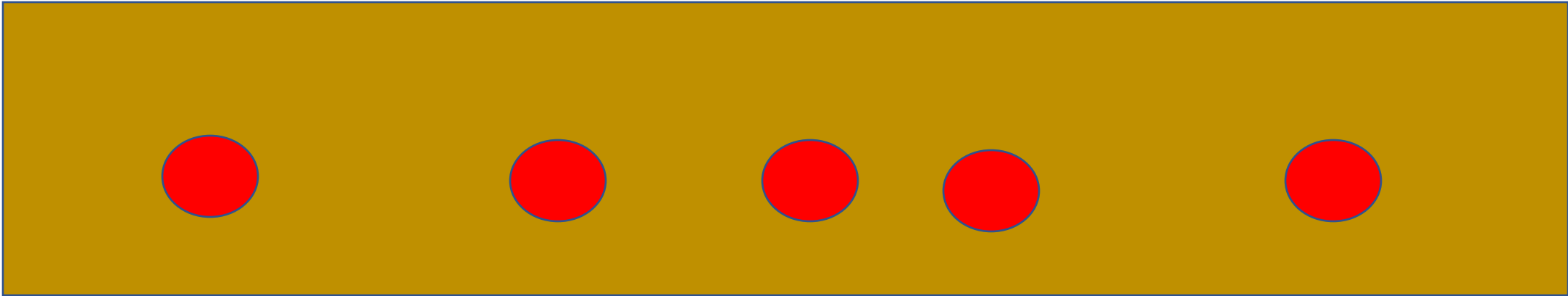
Visible Lasers on ClinicalTrials.gov

- Alexandrite and Pulsed Dye Laser
- 577 nm versus 595 nm Pulsed Dye Laser
- Intense Pulsed Light and Pulsed Dye Laser
- Alexandrite Laser
- Intense Pulsed Light
- Tandem 532nm/1064 Laser

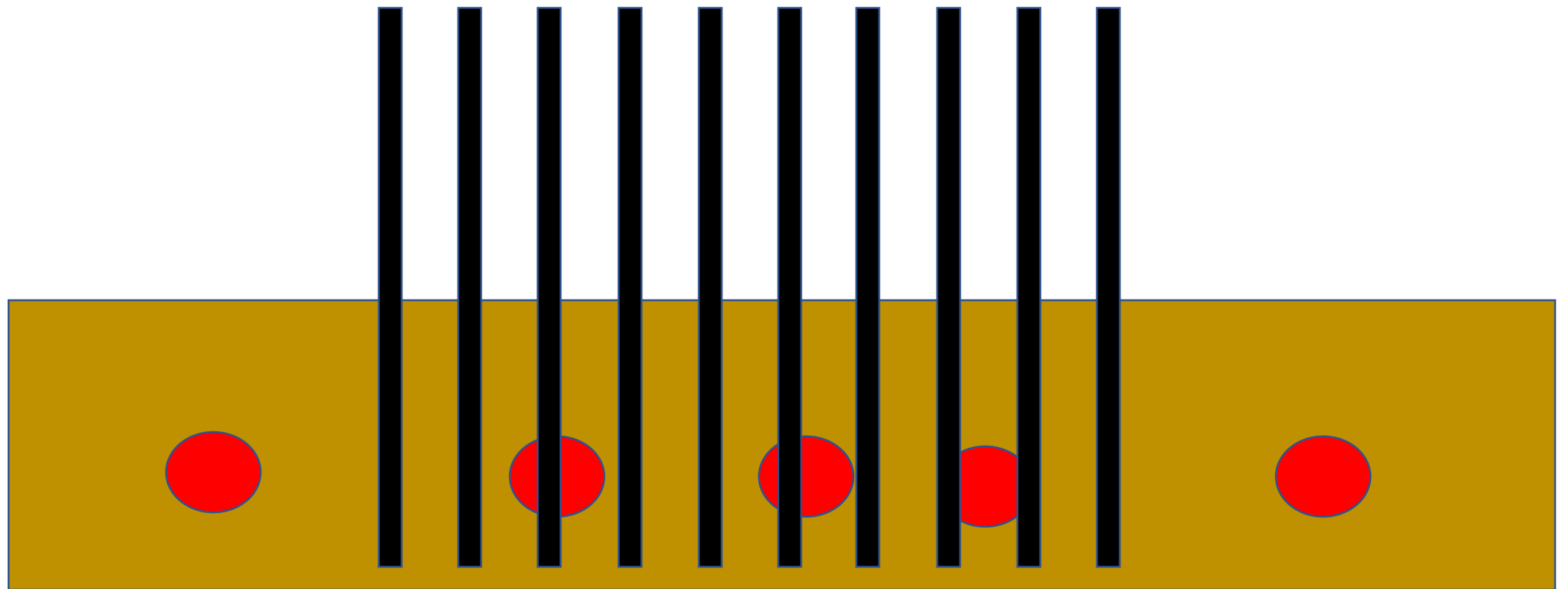
Infrared Lasers

(and heat)

Skin with vessels inside it



Pillars of heat

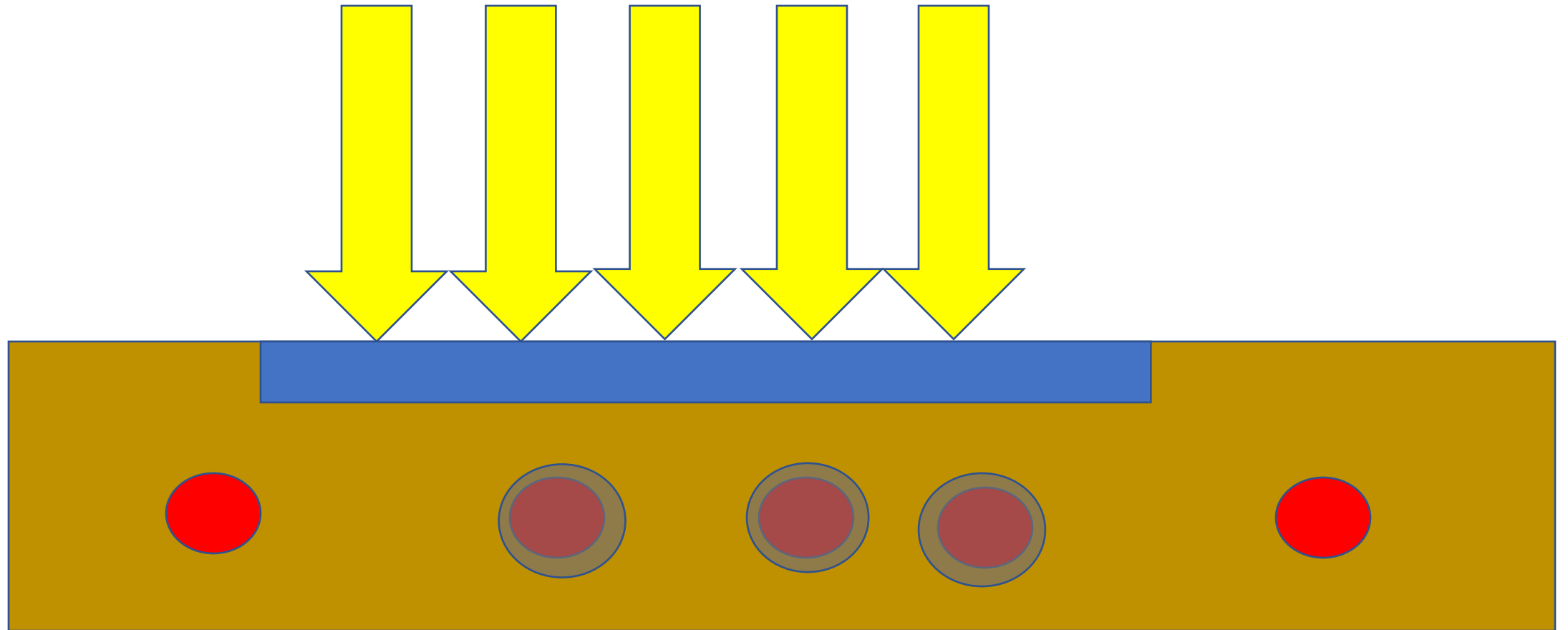


Fractionated Lasers and Devices

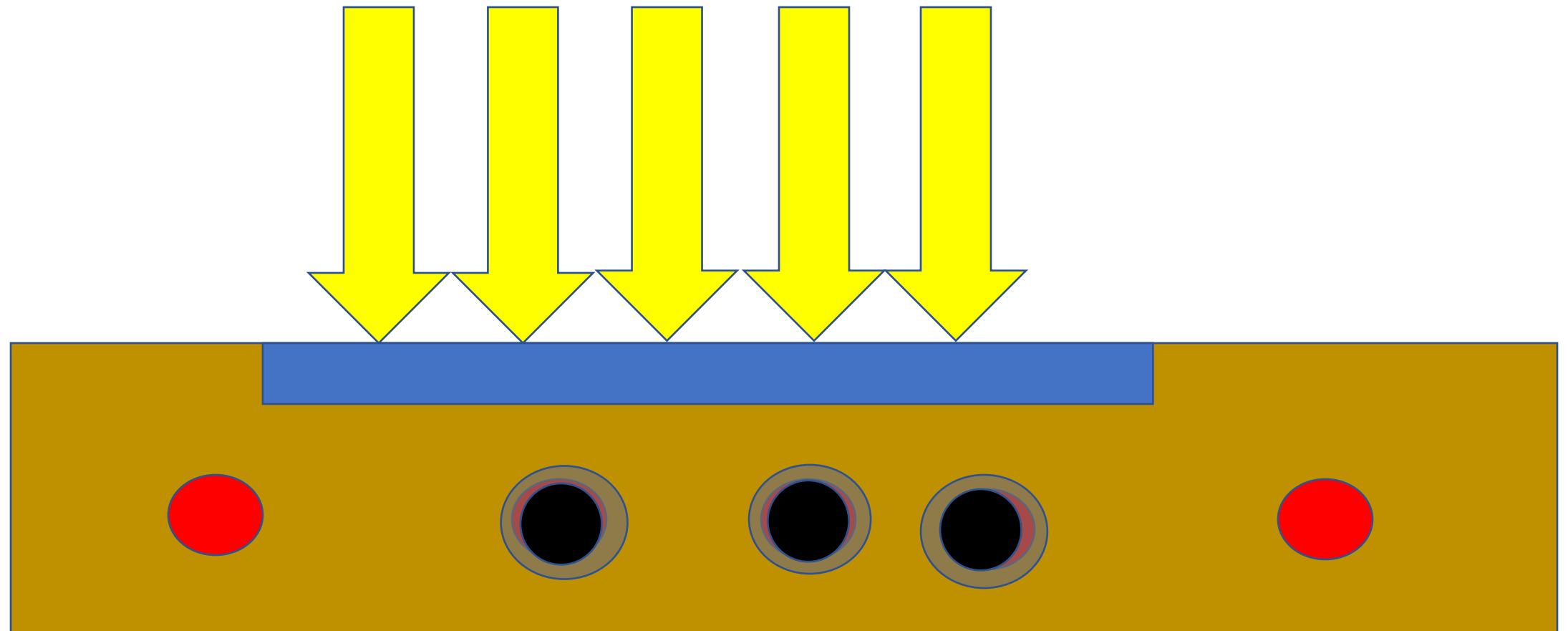
- Matrix RF and PDL
- PDL, Erbium:YAG and Sirolimus
- Matrix RF
- Bipolar RF and PDL

Photodynamic Therapy

Intense specific light for a specific time with cooling



Intense specific light for a specific time with cooling AND a sensitizer inside the vessels

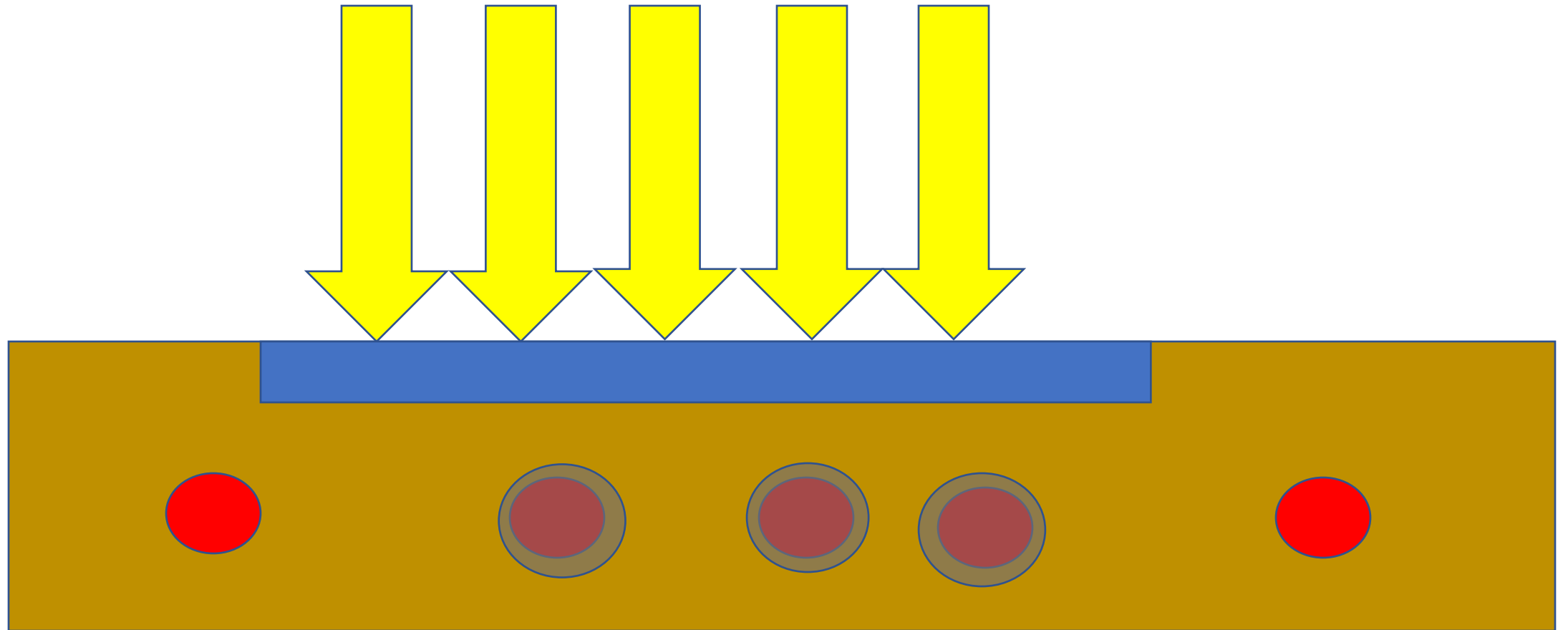


Photodynamic Therapy

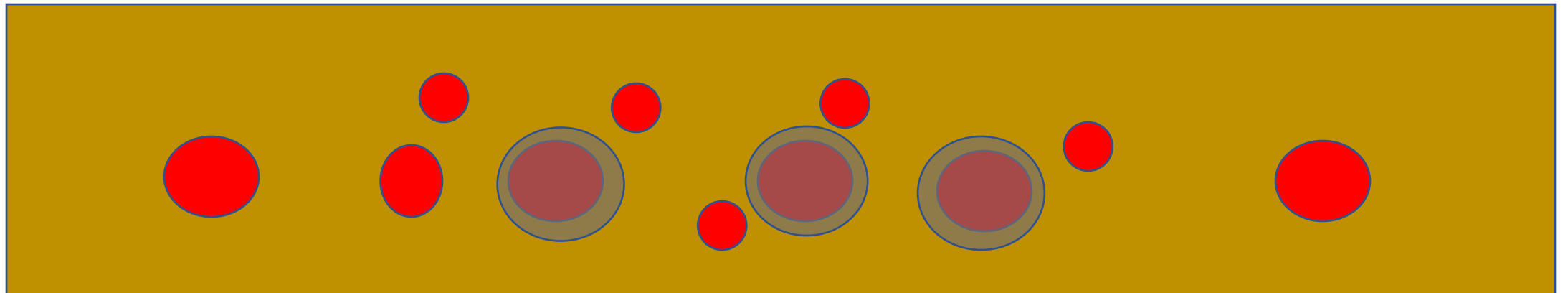
- Talaporfin Sodium and PDL
- Liposomal Benzoporphyrin Derivative Monoacid (BPD-MA) and PDL
- Hemoporphin PDT

Drug Repurposing

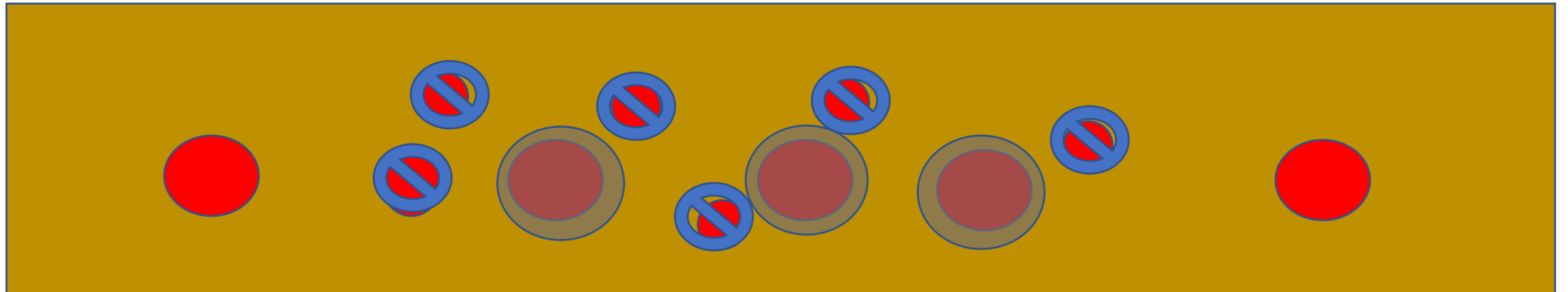
Intense specific light for a specific time with cooling



Intense specific light for a specific time with cooling...a month later



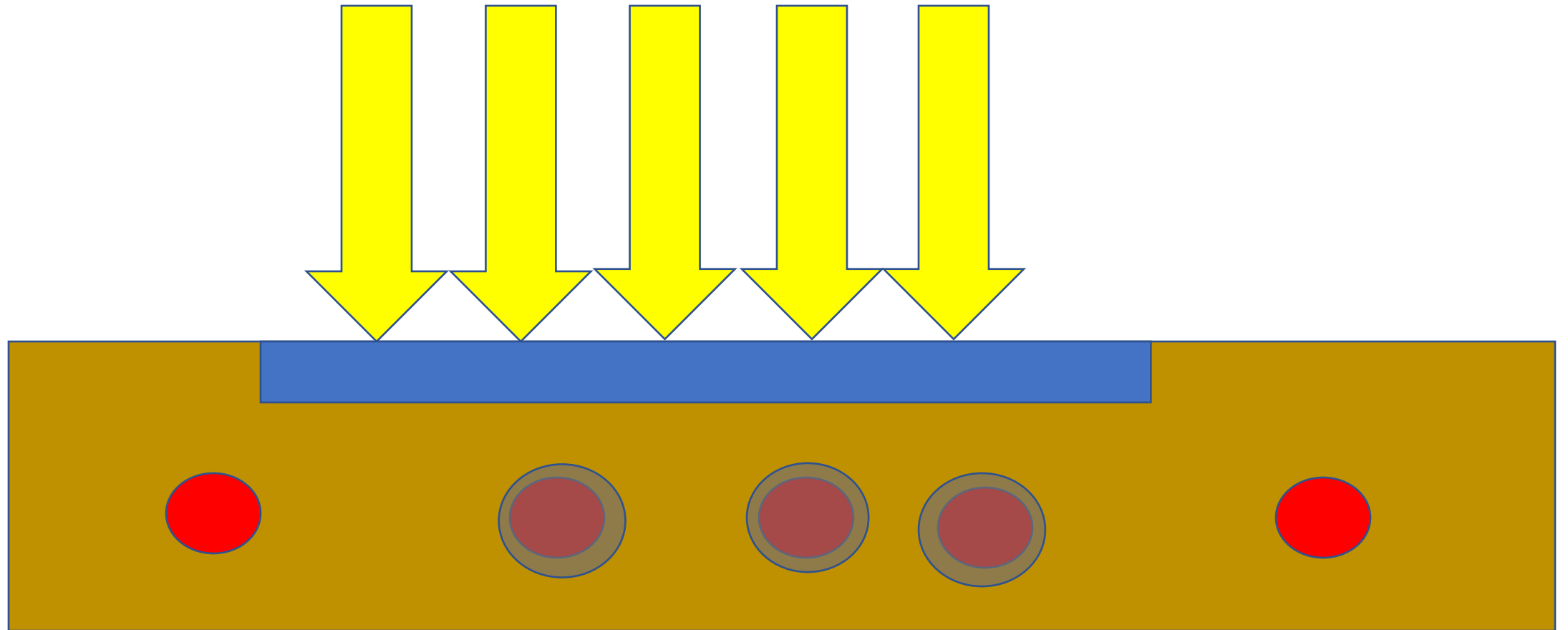
Drugs to stop angiogenesis



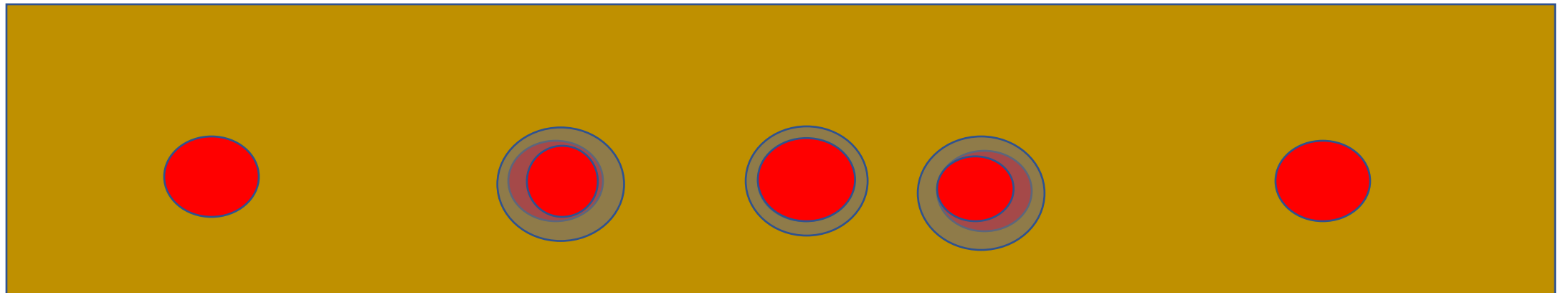
Drug Repurposing – angiogenesis inhibitors

- Topical Rapamycin and PDL
- Ranibizumab and PDL
- Bosentan and PDL
- Topical Imiquimod and PDL
- Topical Tacrolimus/Pimecrolimus and PDL
- Topical Timolol and PDL

Intense specific light for a specific time with cooling



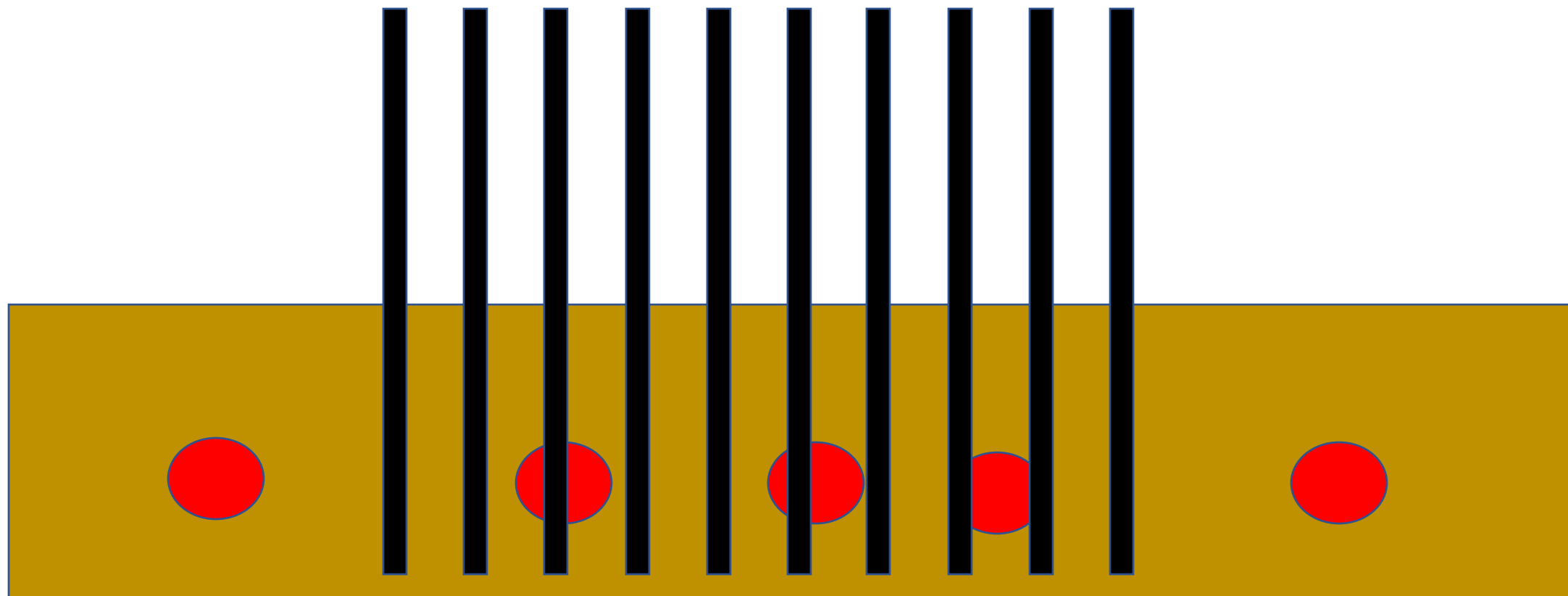
Intense specific light for a specific time with cooling...a month later



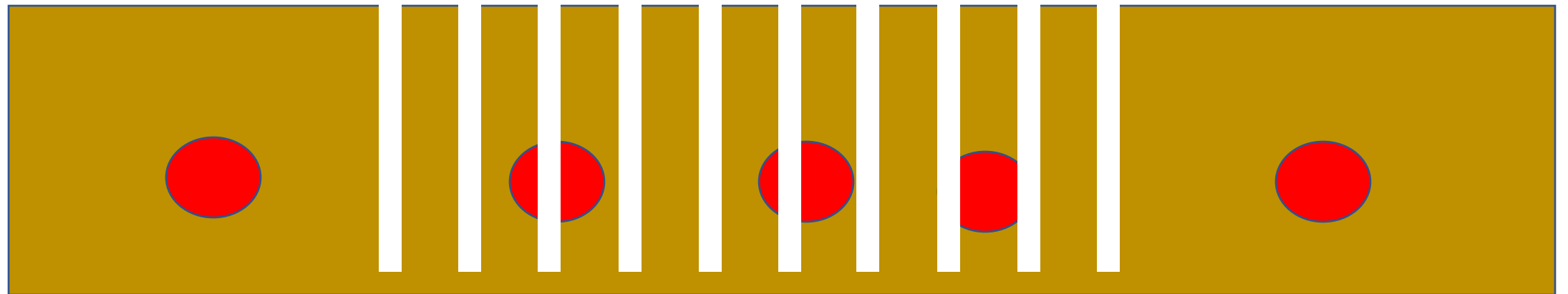
Drug Repurposing – Preventing Recanalization

- Brimonidine Gel
- Timolol Gel and PDL

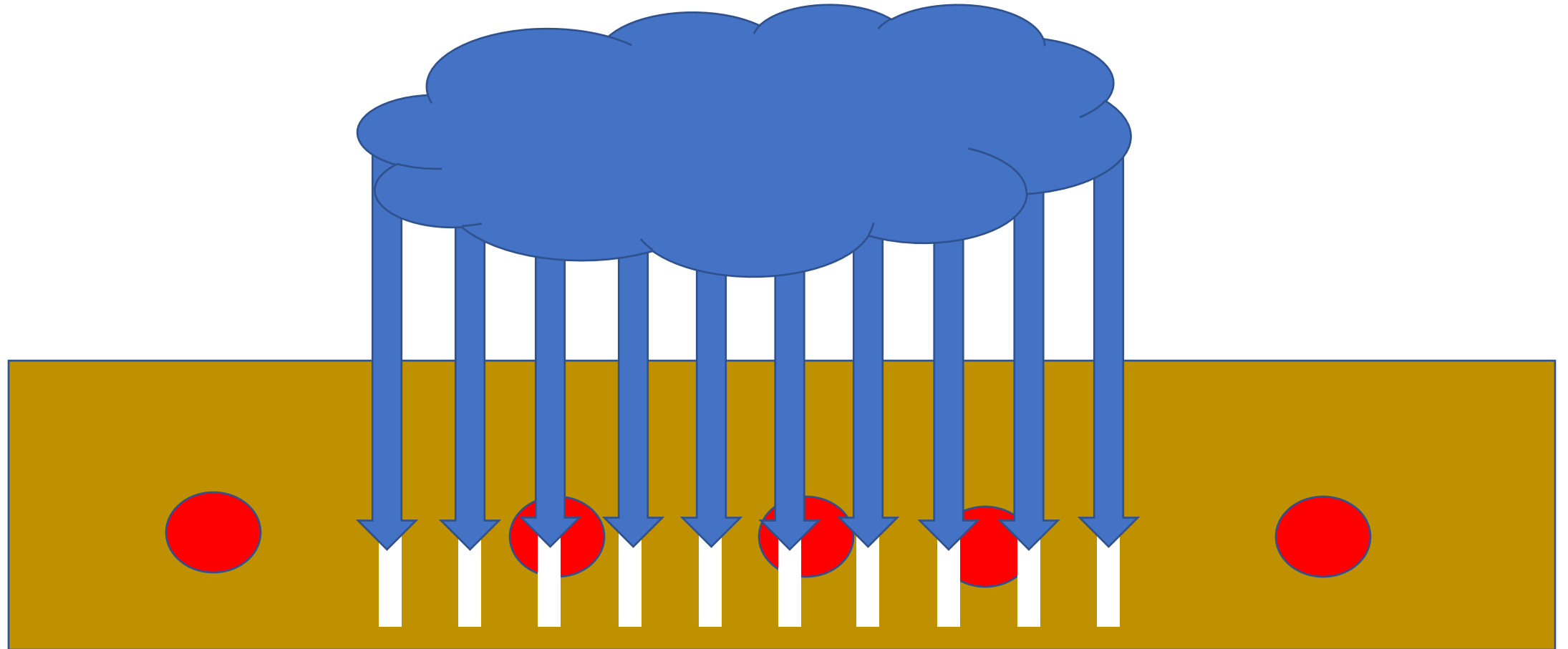
Pillars of infrared heat



Drug Repurposing – using the open holes



Drug Repurposing – using the open holes

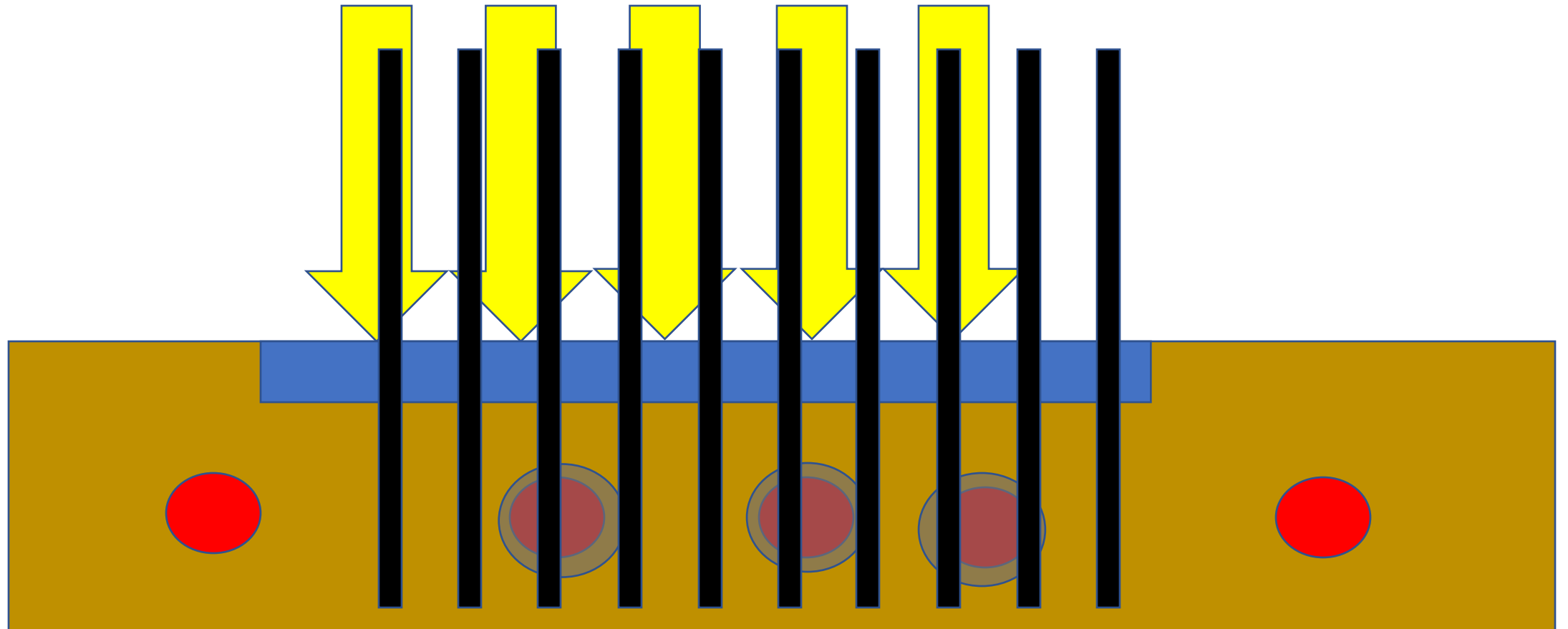


Drug Repurposing – using the open holes

- PDL, Erbium:YAG and Sirolimus

Doing Two Things At The
Same Time

Visible Light and Fractionated Laser

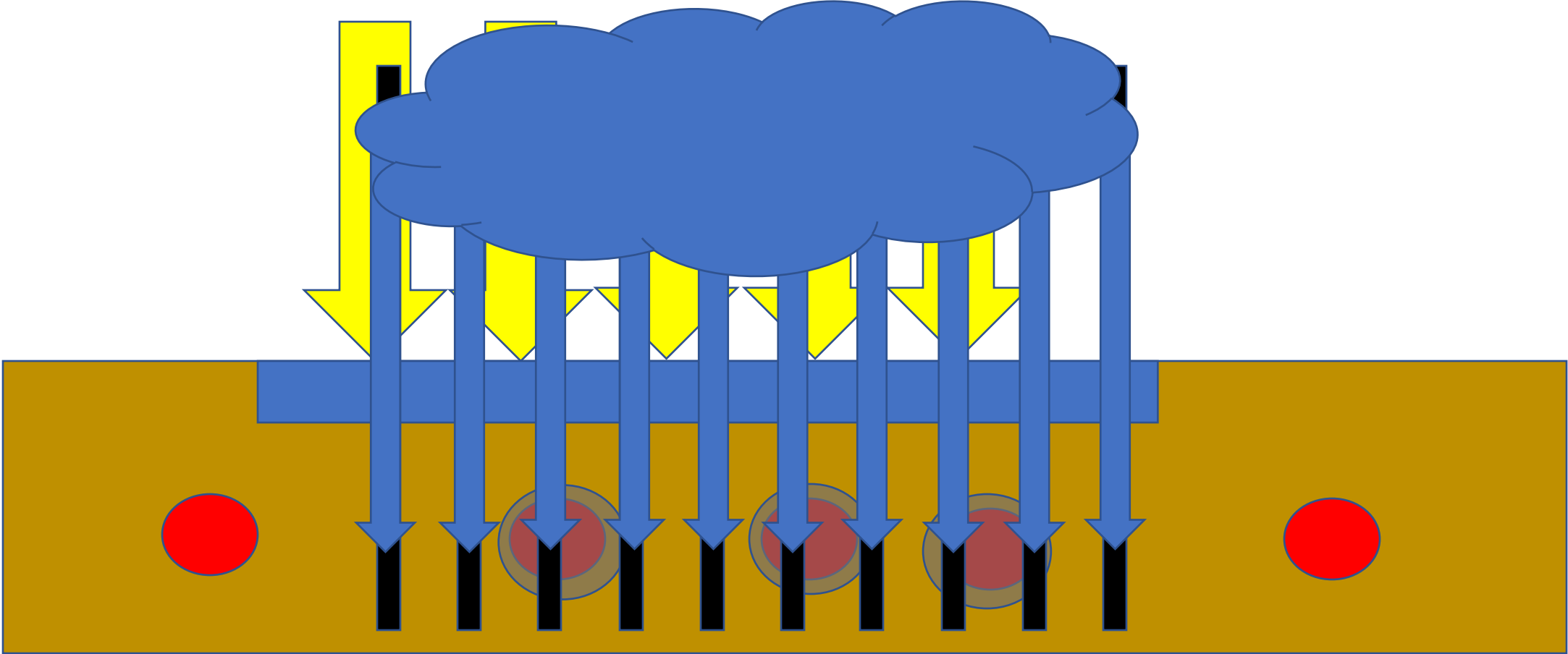


Visible Light and Fractionated Laser

- Matrix RF and PDL
- Bipolar RF and PDL

Doing Three Things At The Same
Time

Visible Light, Fractionation, and Anti-Angiogenesis Cream



Visible Light, Fractionation, and Anti-Angiogenesis Cream

- PDL, Erbium:YAG and Sirolimus – Terminated due to lack of efficacy/adverse events

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