

# Causality Determination

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Occupational & Environmental Health Network



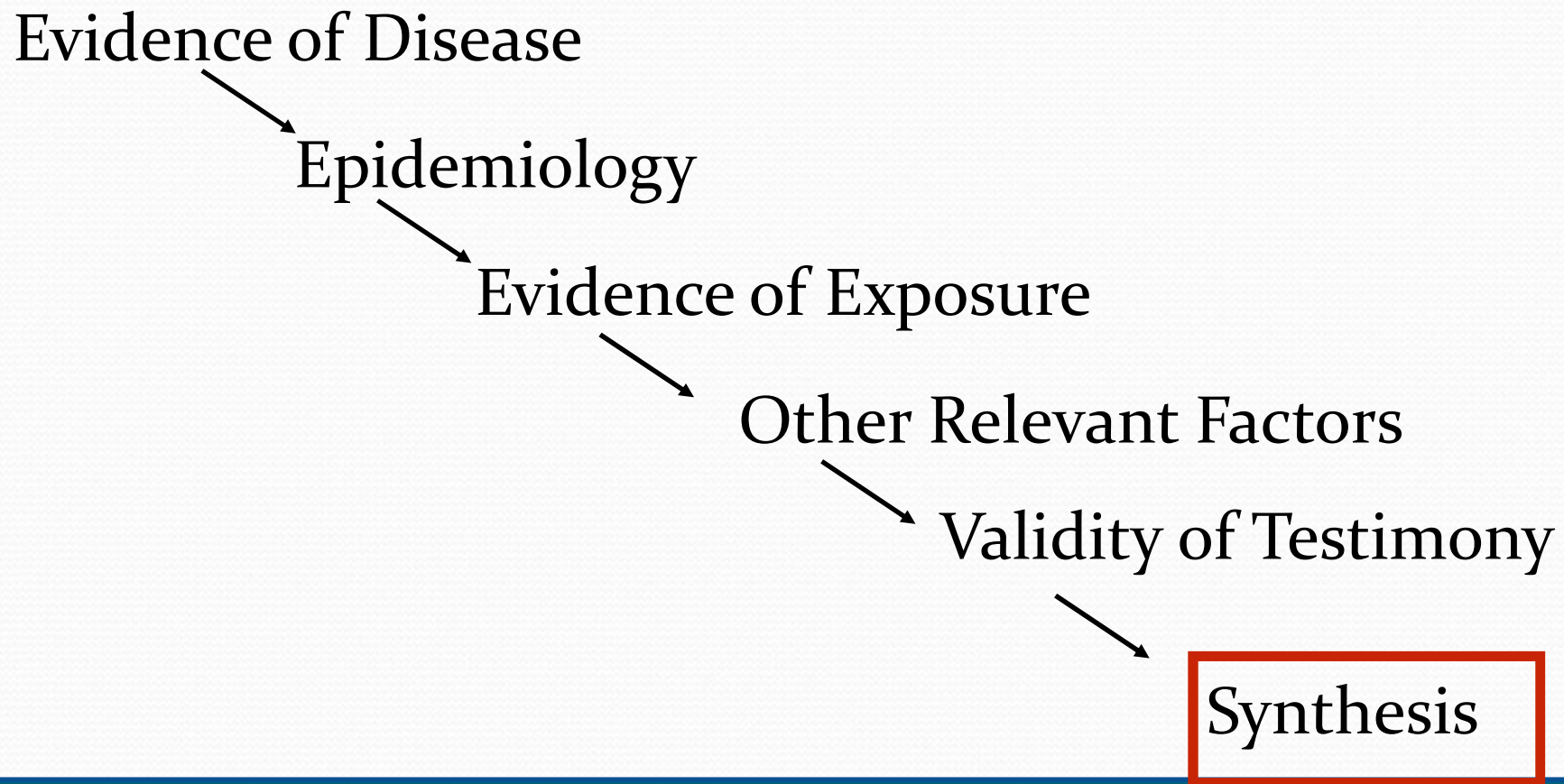
*Work Related Injuries Workshop  
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# Tom Winters, MD Profile



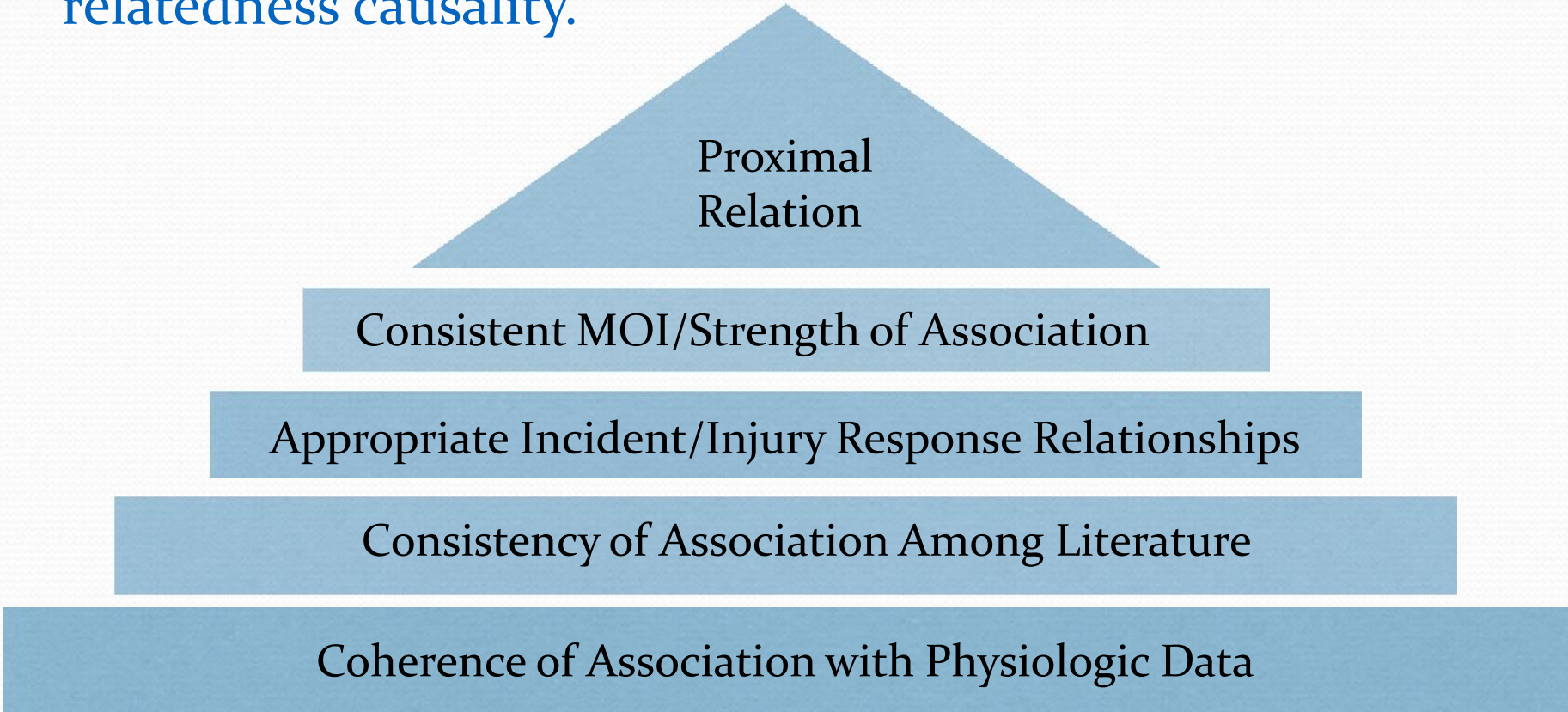
- Thomas H. Winters MD, FACOEM, FACPM, Principal and Chief Medical Officer for Occupational & Environmental Health Network (OEHN).
- Dr. Winters has over 25 years experience in occupational and environmental medicine. His previous positions have included Medical Director for several manufacturing companies and numerous hospitals, colleges and universities throughout Massachusetts.
- He is the former State Police Surgeon - Massachusetts State Police and owner/Medical Director of Medsite-an occupational and primary care medicine center. Dr. Winters has expertise in musculo-skeletal disease, toxic tort & radiation exposures, occupational & infectious diseases, and corporate medical consulting.
- Dr. Winters is also a Certified Medical Review Officer, Certified Medical Disability Examiner and Certified Independent Medical Examiner.
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# Step-wise Approach to Determination of Work-Relatedness



# Evaluating Causality

The five most important factors for evaluating work-relatedness causality.



Proximal  
Relation

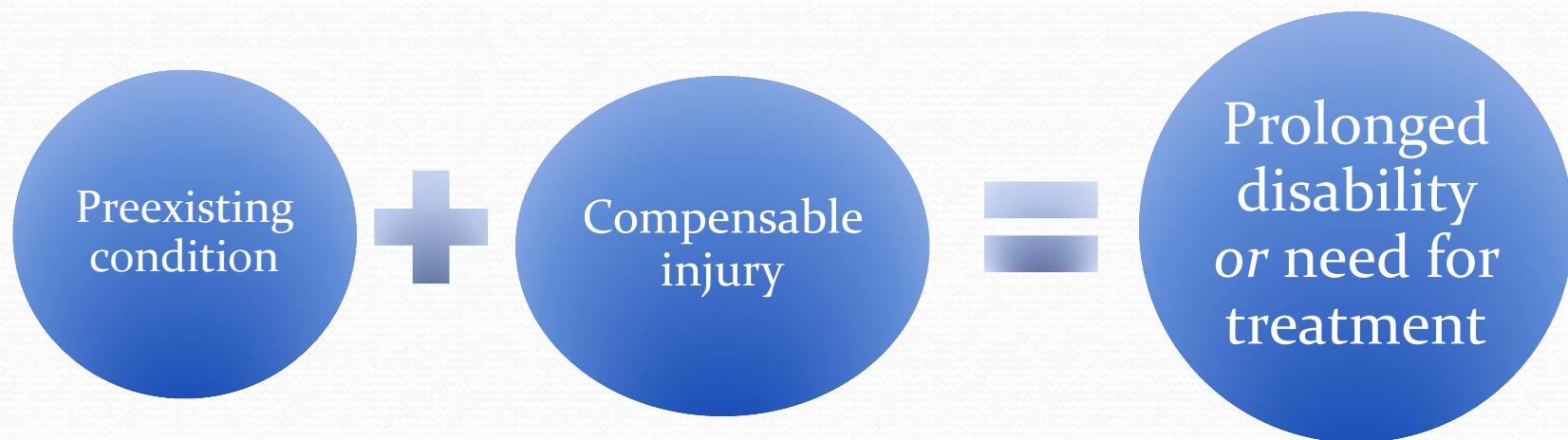
Consistent MOI/Strength of Association

Appropriate Incident/Injury Response Relationships

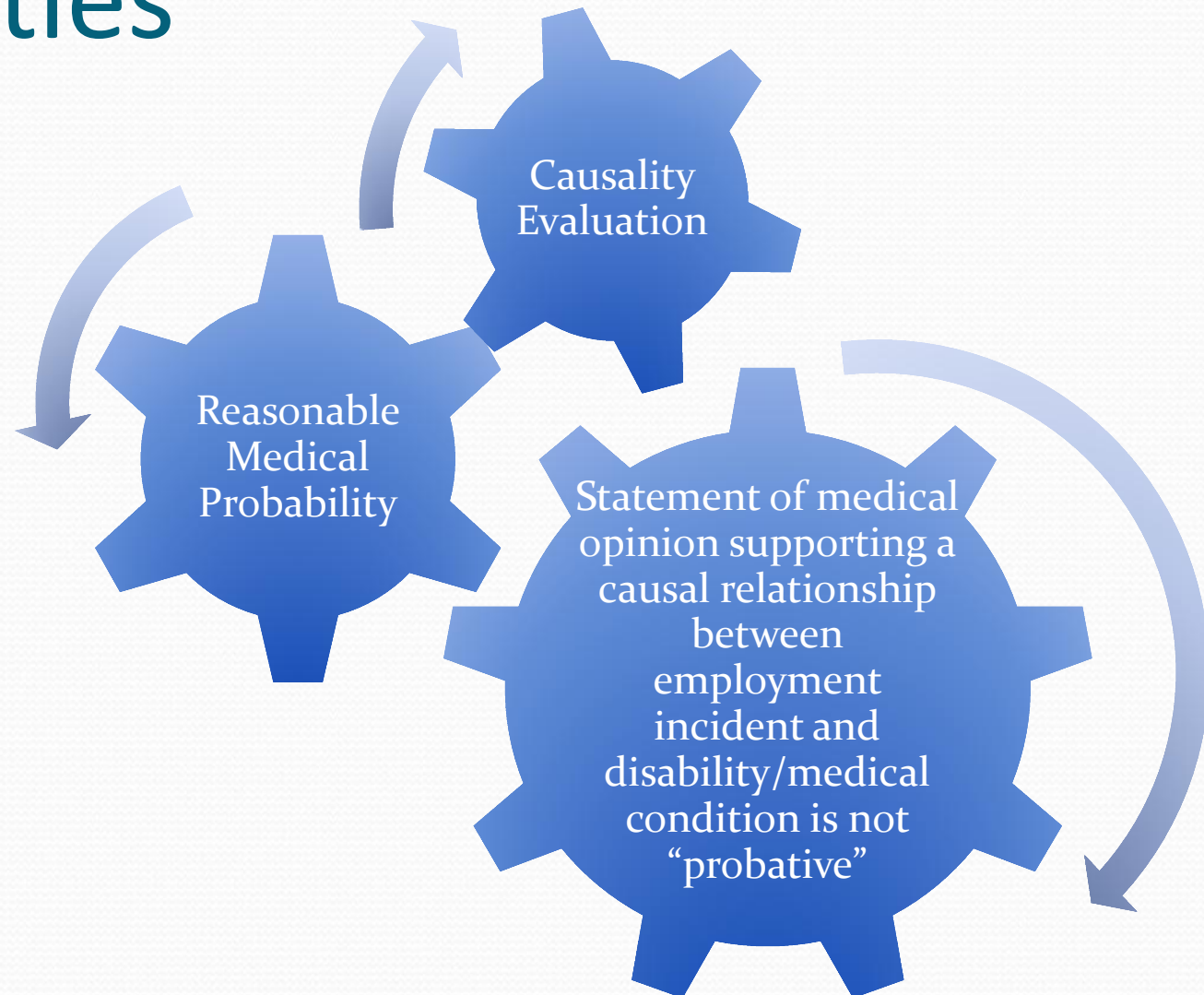
Consistency of Association Among Literature

Coherence of Association with Physiologic Data

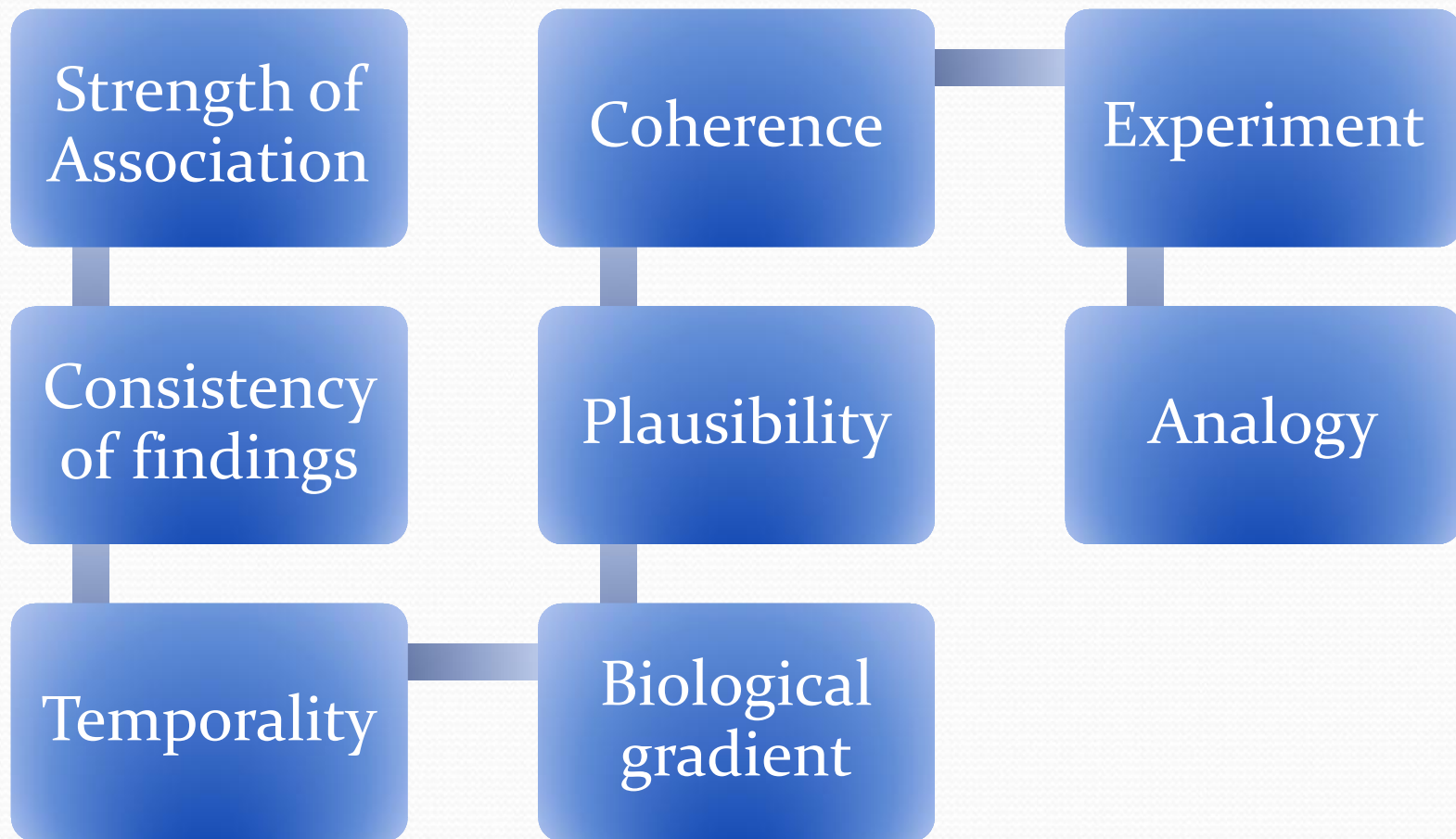
# Preexisting Conditions



# Legalities



# Bradford Hill Criteria



# Updated Bradford Hill's Criteria

- **Temporality** is the most important of the Bradford Hill Criteria
- If the injury or disease precedes the incident event, causality cannot be established
- In addition to top 5, consider **what alternate explanations** exist to explain injury or disease the specificity of association and plausibility



# Evaluating the Epidemiological Evidence

Study design

Study methods

Exposure assessment methods

Outcome measurements

Any controlled and uncontrolled confounders

Assess biases

Integrity of analyses

Statistical significance

Bradford Hill Criteria