

EXPOSOME SCIENCE

WHAT IS THE EXPOSOME



What is the Exposome?

The exposome is the **totality of the factors the human body is exposed to**, from conception onwards. **It complements the genome.**

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WHAT IS THE IMPACT OF THE EXPOSOME ON HEALTH?

The exposome is the totality of external and internal factors that can impact our body and tissues.



DR. CHRISTOPHER WILD
2005

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THE ORIGINS OF THE EXPOSOME

WHO



The concept of the exposome comes initially from the cancer research field

“the cumulative measure of environmental influences and associated biological responses, including exposures from the environment, diet, behavior, and endogenous processes.”

WHY



Growing burden of cancer predominantly caused by environmental and behavioral risk factors.

Prevention must be central to an integrated approach including early detection, treatment and care, but is neglected.

Preventive interventions are impossible without knowledge of the causes and preferably the underlying mechanisms

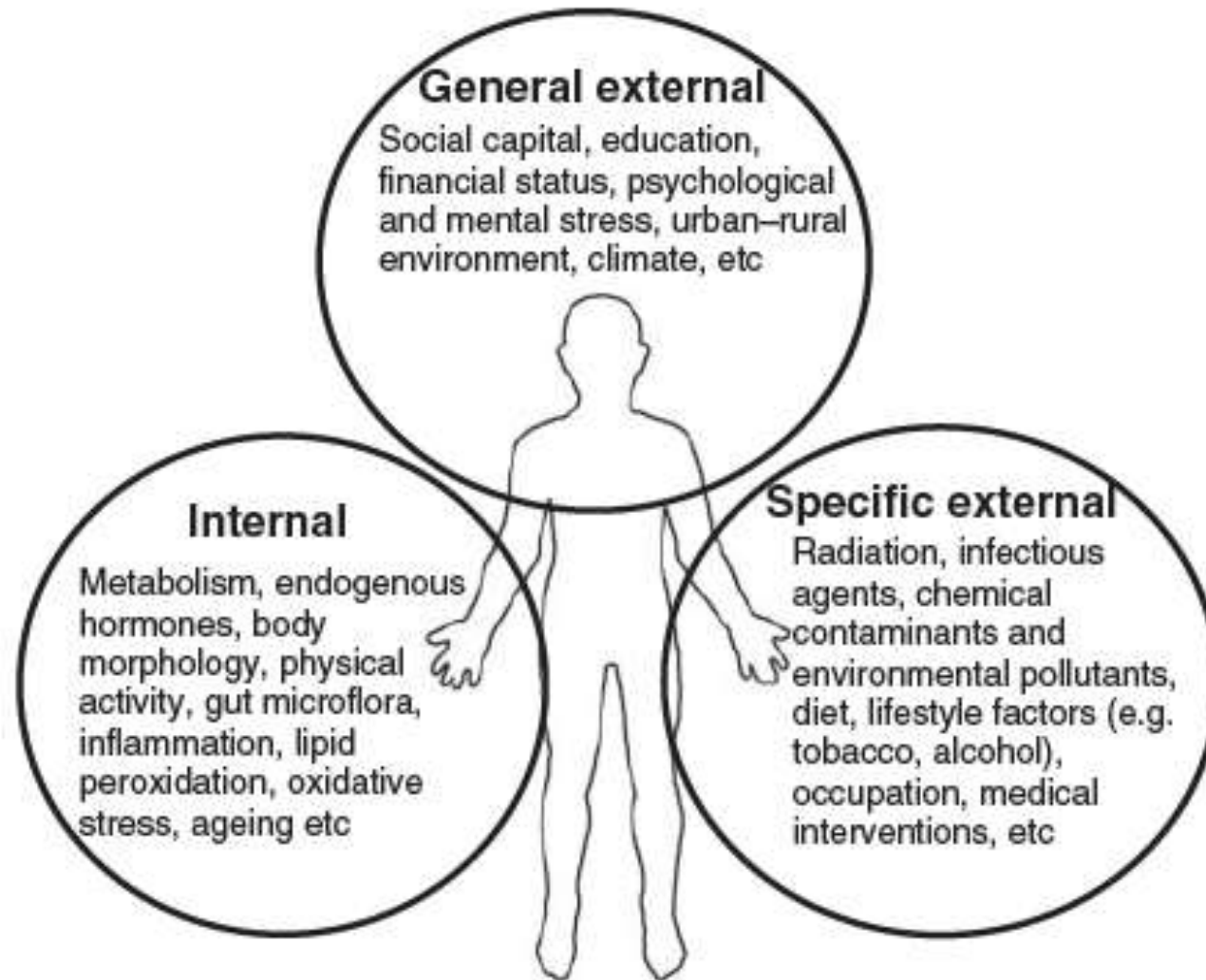
HOW



Characterization of the exposome could permit addressing possible associations with health outcomes and their significance, if any, alone or in combination with genomic factors.

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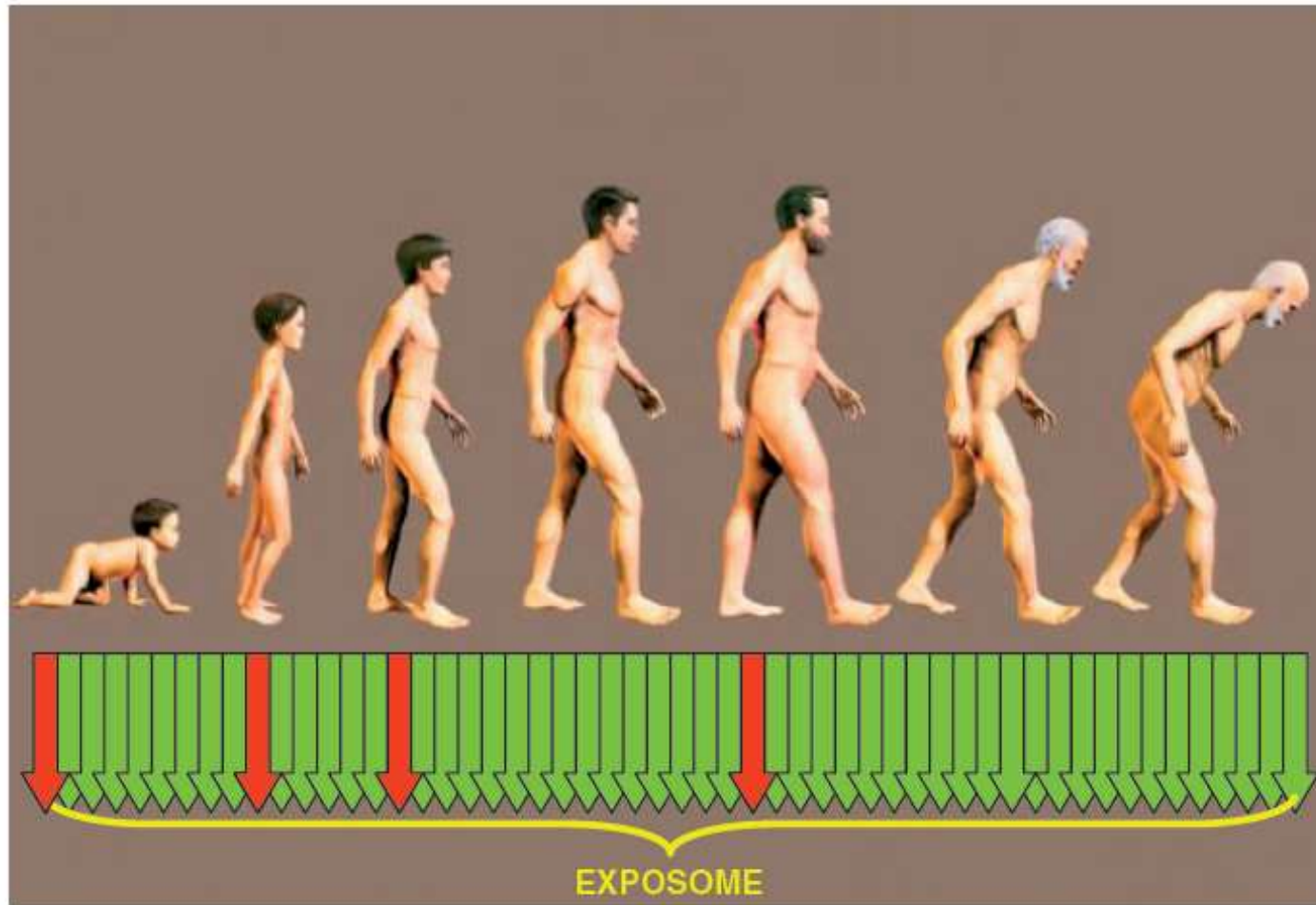
THE ORIGINS OF THE EXPOSOME



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THE ORIGINS OF THE EXPOSOME

FROM CONCEPTION TO DEATH





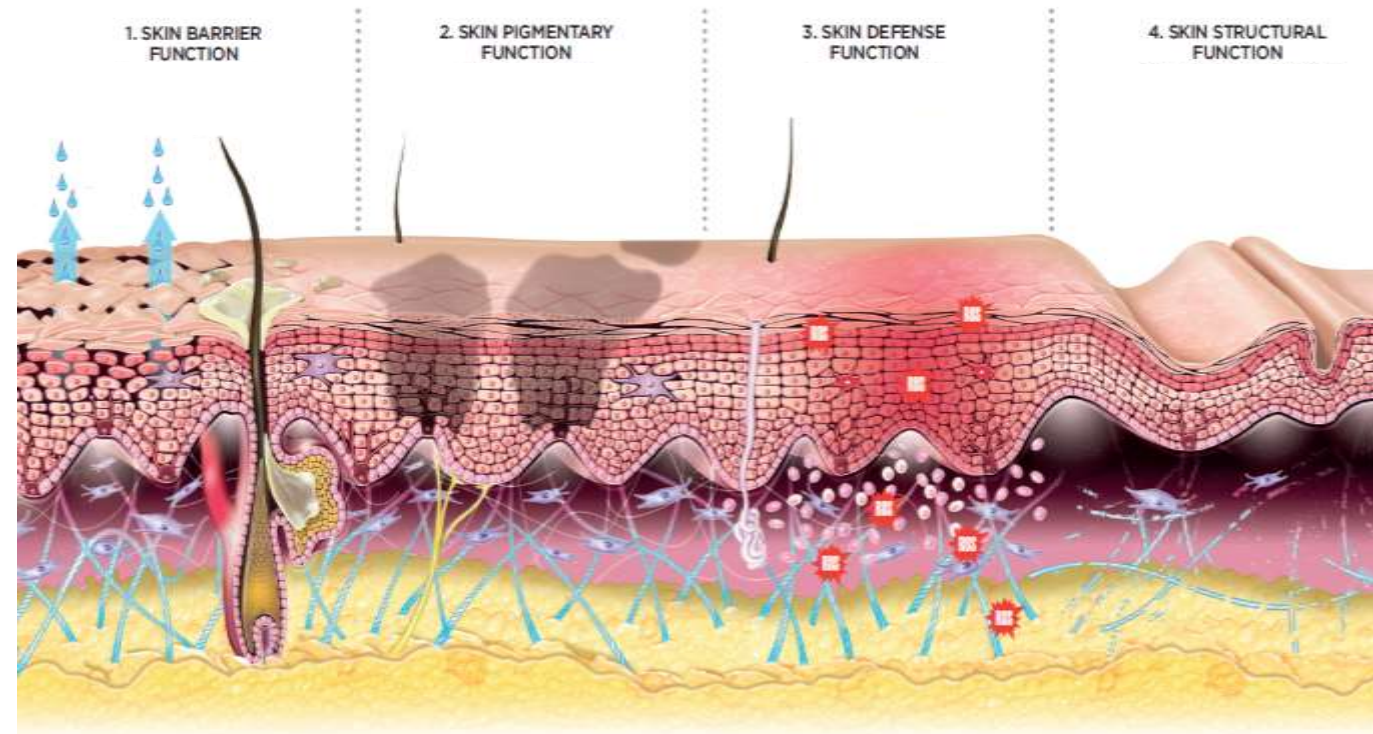
The **skin exposome** comprises several external and internal factors including UV radiation, climatic conditions (heat and humidity), medication, pollution, stress, and dermatology procedures that may damage the skin barrier, induce skin diseases or accelerate skin ageing.

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IMPACT OF THE EXPOSOME ON THE SKIN

EXPOSOME IMPACT ON 4 SKIN FUNCTIONS

15 YEARS OF RESEARCH
ON THE EXPOSOME FACTORS & THEIR IMPACT IN THE SKIN



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IMPACT OF THE EXPOSOME ON THE SKIN

Skin is the human body's largest organ. Its 4 main functions : SKIN PHYSICAL BARRIER – SKIN PIGMENTATION – SKIN DEFENSE – SKIN STRUCTURE are affected by the exposome influencing skin's healthy appearance, integrity and quality.

SKIN BARRIER FUNCTION



Wild CP. Complementing the genome with an "exposome": the outstanding challenge of environmental exposure measurement in molecular epidemiology. Cancer Epidemiol Biomarkers Prev. 2005;14(8):1847-1850.

"EXPOSOME ACCOUNTS FOR MORE THAN 80% OF SKIN AGING"

