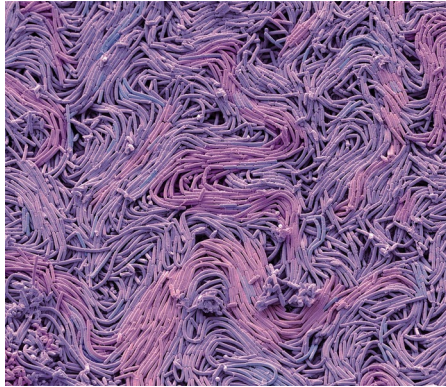## MICROBIOME
The breast milk microbiome
Cell Host Microbe **25**, 324–335 (2019)

Credit: STEVE GSCHMEISSNER/Science Source

The composition of the breast milk microbiome is influenced by both maternal factors and the child's oral microbiome.

The breast milk microbiome is known to contribute to colonization of the infant gut microbiome and hence to have a role in health in later life.

To investigate the factors that influence the composition of the human microbiome, a group of Canadian scientists studied 393 pairs of infants and mothers from the CHILD cohort study. They found that the composition of breast milk was influenced by maternal factors, such as body mass index and breast-feeding practices. Their data also support that the infant oral cavity reciprocally influences the milk microbiome. *HS*

https://doi.org/10.1038/s41591-019-0427-1

OVARIAN CANCER
Lymph removal not tied to positive outcomes
N. Engl. J. Med. **380**, 822–832 (2019)

The standard practice of lymph node removal (lymphadenectomy) during surgery of newly diagnosed advanced ovarian cancer does not increase survival and increases the risk of surgical complications.

The spread of ovarian cancer to the lymph nodes is thought to be an important prognostic factor in the disease, and some studies have suggested there may be a benefit to removal of the pelvic and paraaorartic lymph nodes.

A group of researchers in Germany carried out a randomized clinical trial in which women who had been recently diagnosed with advanced ovarian cancer and who had their tumors completely removed were each assigned to undergo lymphadenectomy or to not receive the surgery.

The procedure didn't increase survival and, in fact, increased the risk of complications, suggesting that this should be reconsidered as a standard practice. *HS*

https://doi.org/10.1038/s41591-019-0426-2

DIAGNOSTIC DEVICES
Remote neonate monitoring
Science **363**, 947 (2019)

A skin-like sensor that monitors the vital signs of neonates allows other medical procedures to be easily carried out on the infant, enables therapeutic skin-to-skin contact with parents and prevents skin damage.

Neonates in intensive care require constant monitoring of their vital signs, which is currently done with adhesive sensors that can easily damage their newly developed or underdeveloped skin and are a physical impediment to other procedures, medical imaging and parental bonding.

An international group of scientists developed a small electronic device that is wireless, ultrathin, soft and skin-like. The device adheres in a way that does not damage skin, and can measure a complete set of vital signs along with advanced physiological parameters not commonly collected currently. Data from the device are read out remotely via Bluetooth.

The preliminary study indicates that these sensors could replace the current technology and could be used for other individuals of any age. *HS*

https://doi.org/10.1038/s41591-019-0429-z

STEM CELLS
Modeling kidney disease with organoids
Nat. Biotechnol. **37**, 303–313 (2019)

Primary kidney tubular epithelial organoids, termed tubuloids, can be derived from human urine and are able to model key features of kidney nephrons in health and disease.

Kidney organoids can be derived from pluripotent stem cells, which are in turn derived from human adult fibroblasts, making this a lengthy procedure not appropriate for personalized therapy modeling.

A group of researchers from the Netherlands developed a protocol to rapidly derive tubuloids from adult stem cells (including from human urine), making them appropriate to model response to therapy and infections.

In the future, these tubuloids could be employed in personalized therapy approaches. *HS*

https://doi.org/10.1038/s41591-019-0428-0

PSYCHIATRIC DISORDERS
Maternal infection linked to psychiatric disorders
JAMA Psychiatry https://doi.org/10.1001/jamapsychiatry.2019.0029 (2019)

Neuropsychiatric disorders such as autism and depression are linked to fetal exposure to maternal infection.

It is known that the development of schizophrenia and autism are linked to fetal exposure to maternal infection; however, it is unknown how widespread the effects of maternal infection are on other mental disorders.

Swedish and US scientists analyzed the medical records of 1.8 million pregnant Swedish women and their children and found that infection diagnosed in a pregnant woman during a hospitalization increased the risk in her child of developing depression or autism later in life.

The study suggests that infection during pregnancy may result in minor brain injuries that can lead to neuropsychiatric disorders later in life. *HS*

https://doi.org/10.1038/s41591-019-0430-6

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