1) Proper connective tissue

a) Loose → gel-like matrix with all three types of fibres. It wraps and cushions organs. It is the most widely distributed type of connective tissue in the body. It provides a protective layer over organs.

b) Dense → major cell type is fibroblast. Very rich in collagen fibres which are tightly packed (if they are not parallel, the tissue is called irregular, i.e. tendons and ligaments which are mainly made of collagen but ligaments have a R of elastic fibres if you stretch it, it will slowly go back to its shape).

Dense irregular tissue is irregularly arranged collagen fibres. Provides structural strength to be able to undergo tension in many directions.

2) Specialized connective tissue

CARTILAGE

a) Hyaline cartilage: amorphous matrix with matrix. Cells are called chondrocytes which lay in small cavities called lacunae. The ground substance has the same R of water as the skin and is not visible upon staining. It is made up of most of the embryonic skeleton, e.g. cartilage of long bones in joint cavities. Non-ossifiable cartilage of the ribs. It supports and reinforces with resilient cushioning properties.

NB osteoarthritis is wrongly thought to affect bones, but is instead degeneration of hyaline cartilage at early stages, it can be reversed or slowed down by suomi histidine and glucosamine (long term, over 3 months).

b) Elastic cartilage—similar to hyaline cartilage but with more elastic fibres than cells. It maintains the shape of a structure while allowing flexibility. Supports the external ear (pinna), epiglottis

c) Fibrocartilage—matrix similar to hyaline but less dense. Tends straight with the capacity of absorbing compressive stress. Present in intervertebral discs, pubic symphysis, discs of knee joints.

NB prolapsed discs can cause back and leg pain (sciatica) if it touches the sciatic nerve.
HYBRIDIZATION (or Renaturation)

Conditions to induce hybridization:
- Heat (preserved) once the heat is stopped, put on reannealed (95°C, alcohol (pH)

Complementary sequences:
- DNA/DNA
- RNA/RNA
- DNA/RNA

Used to "prime" templates e.g. as a starting point to copy DNA or RNA

Primer → Primer copy

Used as a detection method e.g. Southern or northern hybridization

TRANSCRIPTOMICS

RNA extraction

- AAAAA (polymerization)
- DNA synthesis
- TTTT (primers)
- Detection

RNA extraction using guanidine thiocyanate/phenol
- RNA prone to degradation
- Homogenize tissue/suspend cells in Tri
- Centrifuge to remove insoluble cell debris, lipids and protein
- Add chlorophor, mix and centrifuge
- Precipitate RNA in isopropanol
- Wash in ethanol
- Redissolve in pure water oligo dT columns catch

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rising of cervical carcinoma can reach 10-30 years. Most people with HPV do not develop symptoms or health problems from it. In 80% of the cases, the body's immune system clears HPV within two years. But there is no way to know which people will develop health problems.

Different types of HPV cause different health problems. Sex-transmitted HPVs fall into two categories:

- **Low-risk HPVs** do not cause cancer, but can cause skin warts on or around the genitals or anus. They can also, but rarely, cause the insurgence of warts in the throat, a condition called RECURRENT RESPIRATORY PAPILLOMATOSIS (RRP). The HPV types 6 and 11 are responsible for 90% of the health problems associated with low-risk HPVs.

- **High-risk or oncogenic HPVs** can cause cancer. Most high-risk HPV infections are asymptomatic and clear on their own. But persistent high-risk infections can lead to cause more serious cytologic abnormalities or lesions that, if untreated, may progress to cancer. At least a dozen high-risk HPV types have been identified, two of which, HPV-16 and HPV-18, account for the majority of HPV-caused cancer.

The only sure way to avoid contracting HPV is not having sex at all. But for those who are sexually active, there are ways to lower chances to contract the infection.

- **VACCINES**
- **Correct use of condoms**
- **Limited number of PARTNERS**