* Amino acid metabolism
* Amino acid biosynthesis
* Essential and nonessential aa
* Transamination
* Aa families – use precursors to make many more proteins
* Of the 20 aa, humans can only synthesise 10 – plants and lots of microorgansims can synthesise all – gene to make those other 10 disappear because evolution thinks we don’t need
* Essential – we cannot make
* Nonessential – can make
* We can synthesise methionine and arginine if we have other aa to make it
* If we have phenylalanine (precursor), can make tyrosine
* Transamination to make aa – equivalent alpha-keto acid, glutamate is the preferred donor of NH3+ - also used to remove amino group in the liver
* Aminotransferases are enzymes that catalyse transamination – in equilibrium
* Transaminase – aka aminotransferase (IUPAC) – transfer amino group to keto acid
* Glutamine synthetase does not occur in humans – occur in plants and other organisms
* If use ATP called synthetase – if no use ATP call synthase
* Remember transamination
* Note few aa families on cheat sheet
* Homocystinuria – treated by getting rid of homocysteine
* Transamination is important in synthesising and aa breakdown