

# DOPING

Dr.dr.BM.Wara Kushartanti,MS

FIK – UNY

Litbang KONI DIY



# DEFINISI

- ✦ TERJADINYA SATU ATAU LEBIH PELANGGARAN PERATURAN ANTI DOPING SEBAGAI BERIKUT:
  - ada substansi terlarang dlm spesimen tubuh
  - menggunakan substansi/metode terlarang
  - menolak mengumpulkan sampel
  - melanggar persyaratan pemeriksaan doping
  - merusak pengawasan doping
  - memiliki substansi/metode terlarang
  - memperdagangkan substansi/metode terlarang
  - memberikan substansi/metode terlarang

# MENGAPA DILARANG?

- ◆ Melanggar etika olahraga dan medis
- ◆ Bertentangan dengan semangat olahraga
- ◆ Ancaman terhadap sportivitas dan kejujuran (fair play)
- ◆ Ancaman terhadap kesehatan atlet
- ◆ Untuk melindungi hak fundamental olahragawan dlm berpartisipasi pd olahraga yg bebas doping shg meningkatkan derajat kesehatan, keadilan, kesetaraan

# TUJUAN PENGAWASAN DOPING

- ✦ Mencegah penggunaan dan penyalahgunaan doping oleh olahragawan
- ✦ Mengatasi dampak negatif penggunaan doping
- ✦ Mewujudkan prestasi olahraga yg fair play
- ✦ Meningkatkan der. kesehatan olahragawan
- ✦ Meningkatkan pengetahuan dan kesadaran olahragawan dan tenaga keolahragaan lain untuk tidak menggunakan doping dlm kegiatan olahraga

# SASARAN PENGAWASAN

- ✦ OLAHRAGAWAN AMATIR DAN PROFESIONAL BAIK UNTUK PRESTASI, REKREASI, DAN PENDIDIKAN
- ✦ TENAGA KEOLAHRAGAAN MELIPUTI PELATIH, MANAJER, AGEN, STAF TIM, OFISIAL, TENAGA MEDIK DAN PARAMEDIK

# DAFTAR OBAT TERLARANG (PROHIBITED LIST 2007)

- ◆ Anabolic agents
- ◆ Hormones and related substances
- ◆ Beta-2 agonists
- ◆ Agents with anti estrogenic activity
- ◆ Diuretics and other masking agents



# METODE TERLARANG (PROHIBITED METHODS)

- ◆ ENHANCEMENT OF OXYGEN TRANSFER
- ◆ CHEMICAL AND PHYSICAL MANIPULATION
- ◆ GENE DOPING



# TAMBAHAN LARANGAN SAAT IN-COMPETITION

- ◆ Stimulants
- ◆ Narcotics
- ◆ Cannabinoids
- ◆ Glucocorticosteroids





# SUBSTANCES PROHIBITED IN PARTICULAR SPORTS

- ◆ ALCOHOL: aeronautic, archery, automobile, boules, karate, modern pentathlon, motor cycling, power boating
- ◆ BETA-BLOCKERS: aeronautic, archery, automobile, billiards, bobsleigh, boules, bridges, curling, gymnastics, motorcycling, modern pentathlon, nine-pin bowling, sailing, shooting, skiing, wrestling

# ANABOLIC AGENTS

- ◆ 1-androstendiol, bolasterone, boldenone, calusterone, danazol, dehydrochlormethyltestosterone, ethylestrenol, formebolone, gestrinone, methandienone, methyltestosterone
- ◆ Endogenous: androstenediol, dihydrotestosterone, prasterone, testosterone
- ◆ Other anabolic agents: clenbuterol, tibolone, zeranol, zilpaterol

# HORMONES AND RELATED SUBSTANCES

- ◆ Erythropoietin (EPO)
- ◆ Growth Hormone (hGH), Insulin-like Growth Factors (e.g.IGF-1), Mechano Growth Factors (MGFs)
- ◆ Gonadotrophins (LH, hCG): males only
- ◆ Insulin
- ◆ Corticotrophins

# BETA-2 AGONISTS

- ◆ All beta-2 agonists including their D-and L-isomers are prohibited
- ◆ Exception: formoterol, salbutamol, salmeterol and terbutaline when administered by inhalation, require an abbreviated Therapeutic Use Exemption
- ◆ Salbutamol (free plus glucuronide) greater than 1000ng/ml; Adverse Analytical Finding

# AGENTS WITH ANTI-ESTROGENIC ACTIVITY

- ◆ Aromatase inhibitors including, but not limited to, anastrozole, letrozole, aminoglutethimide, exemestane, formestane, testolactone
- ◆ Selective Estrogen Receptor Modulators (SERMs) including, but not limited to, raloxifene, tamoxifen, toremifene
- ◆ Other anti-estrogenic substances including, but not limited to, clomiphene, cyclofenil, fulvestrant

# DIURETICS AND OTHER MASKING AGENTS

- ✦ Masking agents: epitestosterone, probenecid, alpha-reductase inhibitors (finasteride, dutasteride), plasma expanders (e.g. albumin, dextran, hydroxyethyl starch)
- ✦ Diuretics: acetazolamide, amiloride, bumetanide, canrenone, chlorthalidone, ethacrynic acid, furosemide, spironolactone, thiazides

# ENHANCEMENT OF OXYGEN TRANSFER

- ✦ Blood doping, including the use of autologous, homologous or heterologous blood or red blood cell products of any origin
- ✦ Artificially enhancing the uptake, transport or delivery of oxygen, including but not limited to perfluorochemicals, efaproxiral and modified haemoglobin products.

# CHEMICAL AND PHYSICAL MANIPULATION

- ✦ Tampering, or attempting to tamper, in order to alter the integrity and validity of Samples collected during Doping Controls is prohibited. These include but are not limited to catheterisation, urine substitution and/or alteration
- ✦ Intravenous infusions are prohibited, except as legitimate medical treatment.



# GENE DOPING

- ◆ The non-therapeutic use of cells, genes, genetic elements, or of the modulation of gene expression, having the capacity to enhance athletic performance, is prohibited



# STIMULANTS

◆ Adrafinil, adrenaline, amfepramone, amiphenazole, amphetamine, benzphetamine, bromantan, cathine, cocaine, ephedrine, fenfluramine, fenbutrazate, nikethamide, norfenefrine, strychnine, tuaminoheptane

# NARCOTICS

- ◆ Buprenorphine, dextromoramide, diamorphine (heroin), fentanyl and its derivatives, hydromorphone, methadone, morphine, oxycodone, oxymorphone, pentazocine, pethidine.



# CANNABINOIDS AND GLUCOCORTICOSTEROIDS

- ◆ Cannabinoids: HASHIS, MARIJUANA

- ◆ Glucocorticosteroids: All glucocorticosteroids are prohibited when administered orally, rectally, intravenously, or intramuscularly. Their use requires a Therapeutic Use Exemption approval

# SUMMARY

- ◆ Prohibited at all times; anabolic steroids, diuretics, chemical and physical manipulation
- ◆ Prohibited in-competition: stimulants, glucocorticosteroids
- ◆ Prohibited in particular sports: alcohol, beta-blockers
- ◆ Specified Substances