Working with the Investigation Forces – The Austrian example

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Key Moment I

• Olympic Winter Games in Salt Lake City 2002

• Equipment for blood transfusion was found in the appartements of the Austrian Cross Country team
Legal Consequence of Salt Lake 2002

• Addition of an Anti-Doping Paragraph to the Pharmaceutical Drug Law
• §5a: „Trafficking or application of pharmaceutical products according to the Anti-Doping Convention of the European Council for the purpose of Doping in Sports is prohibited.“
• No separate Anti-Doping Law at that time
• Consequences for Athletes are still at the Federation level
• Focus of the Law are the doping dealers

Key Moment II

• Olympic Winter Games in Torino 2006
• Anti-Doping Razzia in the camps of Austrian Cross Country Skiers and Biathletes
• Again equipment for blood doping was found
• As a consequence: Financial Sanction of the IOC against the Austrian OC
Legal Consequence of Torino 2006

- **Political Level: Federal Law of Anti-Doping**

**BUNDESGESETZBLATT**

**Für die Republik Österreich**

<table>
<thead>
<tr>
<th>Jahrgang 2006</th>
<th>Ausgegeben am 19. Mai 2006</th>
<th>Teil I</th>
</tr>
</thead>
<tbody>
<tr>
<td>64. Bundesgesetz</td>
<td>Anti-Doping-Bundesgesetz</td>
<td></td>
</tr>
<tr>
<td>(NR: GP XXII AB 1416 S. 146. BR: 7521 AB 7530 S. 734.)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

64. Bundesgesetz, mit dem das Bundes-Sportförderungsgesetz 2005 geändert wird (Anti-Doping-Bundesgesetz)

Der Nationalrat hat beschlossen:

Bundesgesetz, mit dem das Bundes-Sportförderungsgesetz 2005 geändert wird

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**Key Points**

- Separate Law, dealing with Anti-Doping matters in Austria
- Consequent implementation of the WADA Code into National Law
- **Appointment of „Special Anti-Doping Task Forces“ by the Ministry of Internal Affairs**
- Police Personnel, recruited from Narcotic Drug Enforcement Groups
- Up to 12 Police Officers from all over the land
- Now called: Integrity in Sports Unit
  “Doping, Pharmaceutical Crime and Match Fixing”
Content

• Prevention, Information and Clarification
• Actions of the Government to Control Anti-Doping Measures
• The Independent Doping Control Authority (NADA Austria)
• National Testing Pool
• TUEs
• The Doping Control Procedure: Sampling, Analysis, Reporting
• Disciplinary Actions: Legal Commission, Arbitration Commission
• Duties of National Federations and Athletes
• Regulations for Animal Doping
• Regulations for Monitoring / Seizure / Safeguard Provisions
• Legal Sanctions / Penalties
• Duties of Custom Authorities
• Close Cooperation and data exchange between Prosecutors and the Independent Doping Control Authority

Safeguard Provisions

• Besides the „Integrity in Sports“ Unit of the Police: Sports Minister may appoint additional trained Experts or NADA personnel to inspect Sports entities
• In cases of reasonable suspicion, every entity may be inspected for the presence of prohibited substances
• In cases of imminent danger at all times
• If the experts are hindered to do their job, the penalty is up to 40,000 EUR / 6 weeks jail
Legal Sanctions / Penalties

Purpose: Doping in Sports

- Trafficking or administration to others: up to six months arrest
- Possession of quantities of Anabolics, Hormones or Hormone Modulators above the threshold quantity: up to one year arrest
- If children are involved: up to three years arrest

Threshold Quantities

- Only for the substance groups: S1: Anabolic Agents  S2: Peptide Hormones, Growth Factors and Related Substances  S4: Hormone and Metabolic Modulators
- Regarded as more health detrimental than the other groups by the legislator
- Mostly found in seized products
- Adopted from the German Doping Substance Threshold Act
Threshold Quantities

1. Grenzmengen für Anabolika:
1.1 Anabol-anadrogene Steroide:

<table>
<thead>
<tr>
<th>Substanz</th>
<th>Menge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epoetin alfa</td>
<td>24.000 E</td>
</tr>
<tr>
<td>Epoetin beta</td>
<td>24.000 E</td>
</tr>
<tr>
<td>Bolandol</td>
<td>24.000 E</td>
</tr>
<tr>
<td>Boldenon</td>
<td>24.000 E</td>
</tr>
<tr>
<td>Boldiol</td>
<td>120 µg</td>
</tr>
<tr>
<td>Metileno-Polylol / Epotin beta</td>
<td>90 µg</td>
</tr>
</tbody>
</table>

1.2 Exogene anabol-anadrogene Steroide:

<table>
<thead>
<tr>
<th>Substanz</th>
<th>Menge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clotental</td>
<td>16 mg</td>
</tr>
<tr>
<td>Metenolol</td>
<td>216 mg</td>
</tr>
<tr>
<td>Danazol</td>
<td>24.000 E</td>
</tr>
<tr>
<td>Dosoxymethanol</td>
<td>6.500 E</td>
</tr>
<tr>
<td>Drostanol</td>
<td>2.250 E</td>
</tr>
<tr>
<td>Ethylestradiol</td>
<td>400 E</td>
</tr>
<tr>
<td>Fluoxymesterol</td>
<td>1.200 E</td>
</tr>
<tr>
<td>Testosteron</td>
<td>12 µg</td>
</tr>
<tr>
<td>Testosteron</td>
<td>0.25 µg</td>
</tr>
</tbody>
</table>

Figures of Merit of the Austrian Anti-Doping Legislation

- Police Actions against Doping Crime started 2008
- The State Prosecutor has passed about 400 cases to Court according to the Federal Law of Anti-Doping
- All Police Investigation resulted in Court Trials
- About 40 Athletes of the international or national testing pool were involved
- 3 Coaches or Sports managers were involved
- More than 2 tons of doping substances were seized
- Most abundant Substance groups were Anabolics and Growth Hormone / IGF, then Stimulants, Lifestyle Products, Diuretics, etc
- Most of the cases relate to the Fitness and Body Building Community
The Role of the Laboratory

- Providing Experience to the Police Forces
- Explaining Analytical Results
- Analysis of seized material
- Quantification of the total amount of threshold substances
- Identification of new substances / trends e.g. New Psychoactive Substances (NPAS)
- Link to the Criminal Law: Certified Court Expert in Anti-Doping Matters

Example 1: Threshold Substances
Example 2: NPAS

The World Anti-Doping Code

b: Specified Stimulants (examples):

Benzphetamine; cathine (and its analogues, e.g., methamphetamine; mephedrone, methedrone, methylenedioxymethamphetamine; cathinone; adrenalin; amphetamine; etilefrine; fenaprazine; fenbutrazate; fenpropamide; fenpropimorph; hydroxymetamfetamine; isometheptene; levonantradol; meprobamate; methylamphetamine; methylfluoridemethamphetamine; saddamphetamine; methylhexaneamine; dimethylpentylamine; methylphenidate; nikethamide; nortriptyline; octopamine; oxilofrine (methylxynorcrine); pemoline; amfetamine; phenethyllamine; phenmetrazine; pseudophedrine; salegiline; sibutramine; strychnine; tapentadol; trimazosin; butyrophenone; and other substances with a similar chemical structure or similar biological effect).

S8. CANNABINOIDS

Natural (e.g., cannabis, hashish, marijuana) or synthetized delta-9-tetrahydrocannabinol (THC) and cannabimimetics (e.g., "spice", JWH018, JWH073, HU-210) are prohibited.

New-Psychoactive-Substance-Law

Basal Structures

New Psychoactive Drugs belong to S0, S6, and/or S8
WADA Statistics of AAF

New Psychoactive Drugs belong to S0, S6, and/or S8:

- 2013:  
  S6: 23 Phenylethylamines  
  S8: 8 JWH  
- 2012:  
  S6: 14 Phenylethylamines  
  S8: 12 JWH  
- 2011:  
  S6: 2 Phenylethylamines  
  S8: 3 JWH  
- 2010:  
  S6: 2 Phenylethylamines  
  S8: 1 Cathinone
### Example: Seizure by Austrian Custom Authorities

<table>
<thead>
<tr>
<th>Kurzbezeichnung</th>
<th>Substanz</th>
<th>Substanzgruppe/DBB Nr. 90/2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>MPPP</td>
<td>4-Methyl-4',5'-dihydroxyphenophenone</td>
<td>Anhang II, Z3</td>
</tr>
<tr>
<td>3-MEC (AMEC)</td>
<td>3-Methylcathinone</td>
<td>Anhang II, Z3</td>
</tr>
<tr>
<td>Pentylon</td>
<td>6-Keto-Methylbenzodioxolylpentamine</td>
<td>Anhang II, Z3</td>
</tr>
<tr>
<td>MEPDP</td>
<td>2,4-Methylendioxo-4',5'-dihydroxyphenone</td>
<td>Anhang II, Z3</td>
</tr>
<tr>
<td>DMPM</td>
<td>Dihydroxyprolin</td>
<td>Anhang II, Z3</td>
</tr>
<tr>
<td>AM-694</td>
<td>1,5-Difluoroethyl-1-(3-iodobenzyl)indole</td>
<td>Anhang II, Z3</td>
</tr>
<tr>
<td>5-MeO-DALT</td>
<td>5-Methoxy-N,N-diallylpyramine</td>
<td>Anhang II, Z3</td>
</tr>
<tr>
<td>JWH-073</td>
<td>N-Butyl-3-(1-ethyl)indole</td>
<td>Anhang II, Z3</td>
</tr>
<tr>
<td>25-NBOMe</td>
<td>4-bromo-2,5-dimethoxy-N-[2-methoxysphenyl]benzoesethanamine</td>
<td>Anhang II, Z3</td>
</tr>
<tr>
<td>2CE</td>
<td>2,5-Dimethoxy-4-ethylphenethylamine</td>
<td>Anhang II, Z3</td>
</tr>
<tr>
<td>TF-MPP</td>
<td>1-(3-Fluoromethyl)phenyl]piperazine</td>
<td>Anhang II, Z3</td>
</tr>
<tr>
<td>Butylone</td>
<td>3-bromo-N-methylbenzodioxolylbenzamines</td>
<td>Anhang II, Z3</td>
</tr>
<tr>
<td>3PP</td>
<td>1-Fluorophenyl)piperazine</td>
<td>Anhang II, Z3</td>
</tr>
</tbody>
</table>

### Example 3: Endogenous-like Testosterone

- Confiscated Black Market products
- Usual Suspects: predominantly Anabolic Steroids
- Peptide Hormones: rEPOs (e.g. Dynepo), Growth Hormone, HCG…
- Others: Tamoxifen, Ephedrine, Methylhexaneamine
- Specials: Viagra, Benzodiazepines, Antidiabetics
- Ca. 30 different testosterone preparations
- **WADA Project:**
  - Analysis of the seized Testosterone preparations with GC/C/IRMS
**IRM Analysis**

- Method for the Discrimination of synthetic and endogenous Testosterone
- Detection of Synthetic Testosterone Application
- Only possible, if the $\delta^{13}C$ value of the applied synthetic product is lower than the endogenous Testosterone

**Result:**

About 62% of the testosterone products investigated are close to endogenous $\delta^{13}C$ values.

Detection of Doping with these preparations is **not likely to be detectable using the current IRMS approach**.
Example 4: Results Interpretation

**IEF-PAGE Analysis for rEPO**

- Use of rEPO could not be excluded
- Reported as AAF for rEPO

Acknowledgement

- Integrity in Sports Unit, Ministry of Int. Affairs
- Ministry of Defense and Sports
- Austrian National Anti-Doping Agency
- World Anti-Doping Agency