

Int Poster J Dent Oral Med 2011, Vol 13 No 3, Poster 542

THE IDENTIFICATION OF CIVILIAN DEAD BODIES BY ARCHIVES OF ARMED FORCES

A contribution of the German Academy of Forensic Odontostomatology

Language: English

Authors:

Dr. med. Dr. med. dent. Claus Grundmann,
Municipality of Duisburg, Public Health Office, Duisburg, Germany
Dr. med. Dr. med. dent. Klaus Rötzscher,
AKFOS, Speyer, Germany
Dr. med. dent. Klaus-Peter Benedix,
Bundeswehr, München, Germany
Dr. med. Hubert Lamberti,
Bundeswehr, Andernach, Germany

Date/Event/Venue:

23 et 24 Septembre 2010
AFIO Association Française d'Identification Odontologique XXème Congrès de l'A.F.I.O.
Dijon – Cellier de Clairvaux

Introduction

Most citizens in Germany frequent their dentists in more or less distances of time and their dental status is documented by dental records, including also x-rays. The registration of the visits of the armed forces, i.e. "Deutsche Bundeswehr", are also documented. Nevertheless it happens that criminalists are not successful in identifying dead bodies using the mentioned three scientific methods (DNA, fingerprints and dental documents). The publication of dental data in dental journals as the "Zahnärztliche Mitteilungen" or "Rheinisches Zahnärzteblatt" are often without wanted success. Three samples show the support by the "Institut für Wehrmedizinostatistik und Berichtswesen der Bundeswehr, Andernach (WehrMedStatInstBW)" to give dead bodies their names they had during life-time.

Material and Methods

Case 1:

A man was killed by a train by suicide. The identification of the person was extremely difficult, because no DNA, ante-mortem fingerprints and dental records existed. The criminalists contacted the "WehrMedStatInstBW", but the difference after the end of his time as soldier and the date of suicid (more than 20 years) did not allow the use of the existing dental records. Too much treatments afterwards, i.e. extractions of teeth in the upper jaw were done. In opposite the comparison of ante- and post-mortem x-rays of the lateral teeth (molars and premolars) of the left and right lower jaw (Fig. 1-4) lead to the exact identification of the unknown person treated at the Bundeswehr decades ago and was killed by a train.

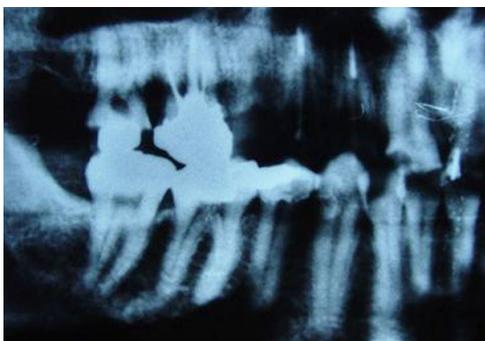


Fig. 1: Lower right jaw: Teeth 47, 46, 45 and 43 (ante-mortem)

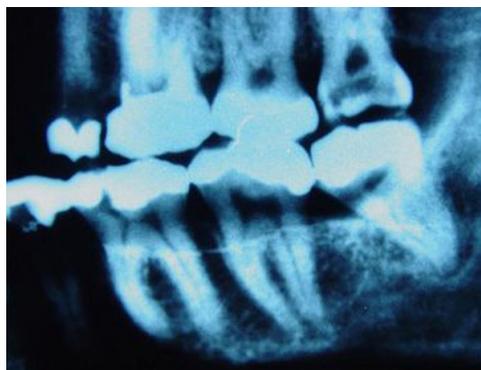


Fig. 2: Lower left jaw: Teeth 36, 37 and 38 (ante-mortem)

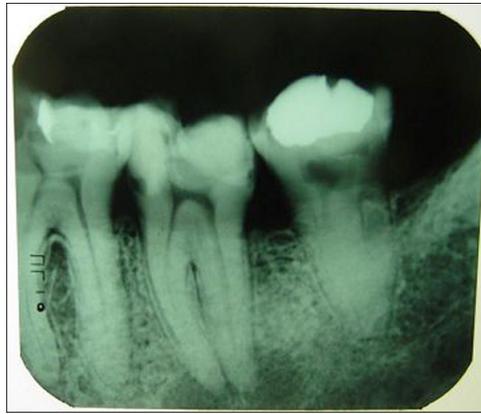


Fig. 3: Lower right jaw: Teeth 47, 46, 45 and 43 (post-mortem)

Fig. 4: Lower left jaw: Teeth 36, 37 and 38 (post-mortem)

Case 2:

In a forest a completely decomposed male dead body was found by walkers. The upper and the lower jaws were macerated and examined by a forensic dentist. Also in this case the suspicion existed, that it may be the since some weeks as missing registered person (Fig. 7: macerated upper jaw and Fig. 8: macerated lower jaw: conserved by surgical and conservative treatments). Usable DNA or fingerprints did not exist. The relatives of the dead body gave the criminalists the address of a "home"-dentist, who unfortunately did not use a correct record except the information about "filling of tooth 26 (occlusal-distal) and extraction of tooth 46" (Fig. 5). These information are not specific and they are unable as identification evidence. The criminalists contacted the "WehrMedStatInstBW" and received the dental records for identification (Fig. 6). The comparison of the record archived at the Bundeswehr (Fig. 7 and 8: "red") – in combination with the information of the "home"-dentist (Fig. 7 and 8: "blue") lead to the exact correspondence with the upper and lower jaw of the deceased male dead body.

Gebissbefund/Zahnseheema

Verheiratete Person männlich weiblich Unbekannt(er) Tot(er) (Leichenbefund) Unbekannte hilflose Person aufgefunden ungeschützt

Zahnstatus

Gebissbefund/Zahnstatus: Lage der Befunde bei Schließen der Kieferklappe. Welche ist, in die hier angegebenen Gebisse, mit den Zahn-Nummern, einzeln, Mehrzahl und als Summe zu formulieren.

11	21
12	22
13	23
14	24
15	25
16	26
17	27
18	28
19	29
10	20
11	21
12	22
13	23
14	24
15	25
16	26
17	27
18	28
19	29
10	20
11	21
12	22
13	23
14	24
15	25
16	26
17	27
18	28
19	29
10	20

rechts: 48 47 46 45 44 43 42 41 31 21 22 23 24 25 26 27 28
links: 48 47 46 45 44 43 42 41 31 21 22 23 24 25 26 27 28

Beobachtung von Karies, Brüche, Pulverstein

Sonst. Feststellungen: Oculäre Anomalie, Parodontose etc.

Röntgenaufnahmen: Panoramaschichten ja nein
Eingebrosen ja nein

27.06.2004
28.06.2005
Unterschrift der Zahnärztin/zahnarztes

Zahnärztliche Behandlungskarte

Zahnärztliche Behandlungskarte

12 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0
21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38

2/Amal

14

8107-1499

1.8.07-0200

16

17

18

19

20

21

22

23

24

25

26

27

28

29

30

31

32

33

34

35

36

37

38

39

40

41

42

43

44

45

46

47

48

49

50

51

52

53

54

55

56

57

58

59

60

61

62

63

64

65

66

67

68

69

70

71

72

73

74

75

76

77

78

79

80

81

82

83

84

85

86

87

88

89

90

91

92

93

94

95

96

97

98

99

100

101

102

103

104

105

106

107

108

109

110

111

112

113

114

115

116

117

118

119

120

121

122

123

124

125

126

127

128

129

130

131

132

133

134

135

136

137

138

139

140

141

142

143

144

145

146

147

148

149

150

151

152

153

154

155

156

157

158

159

160

161

162

163

164

165

166

167

168

169

170

171

172

173

174

175

176

177

178

179

180

181

182

183

184

185

186

187

188

189

190

191

192

193

194

195

196

197

198

199

200

201

202

203

204

205

206

207

208

209

210

211

212

213

214

215

216

217

218

219

220

221

222

223

224

225

226

227

228

229

230

231

232

233

234

235

236

237

238

239

240

241

242

243

244

245

246

247

248

249

250

251

252

253

254

255

256

257

258

259

260

261

262

263

264

265

266

267

268

269

270

271

272

273

274

275

276

277

278

279

280

281

282

283

284

285

286

287

288

289

290

291

292

293

294

295

296

297

298

299

300

301

302

303

304

305

306

307

308

309

310

311

312

313

314

315

316

317

318

319

320

321

322

323

324

325

326

327

328

329

330

331

332

333

334

335

336

337

338

339

340

341

342

343

344

345

346

347

348

349

350

351

352

353

354

355

356

357

358

359

360

361

362

363

364

365

366

367

368

369

370

371

372

373

374

375

376

377

378

379

380

381

382

383

384

385

386

387

388

389

390

391

392

393

394

395

396

397

398

399

400

401

402

403

404

405

406

407

408

409

410

411

412

413

414

415

416

417

418

419

420

421

422

423

424

425

426

427

428

429

430

431

432

433

434

435

436

437

438

439

440

441

442

443

444

445

446

447

448

449

450

451

452

453

454

455

456

457

458

459

460

461

462

463

464

465

466

467

468

469

470

471

472

473

474

475

476

477

478

479

480

481

482

483

484

485

486

487

488

489

490

491

492

493

494

495

496

497

498

499

500

501

502

503

504

505

506

507

508

509

510

511

512

513

514

515

516

517

518

519

520

521

522

523

524

525

526

527

528

529

530

531

532

533

534

535

536

537

538

539

540

541

542

543

544

545

546

547

548

549

550

551

552

553

554

555

556

557

558

559

560

561

562

563

564

565

566

567

568

569

570

571

572

573

574

575

576

577

578

579

580

581

582

583

584

585

586

587

588

589

590

591

592

593

594

595

596

597

598

599

600

601

602

603

604

605

606

607

608

609

610

611

612

613

614

615

616

617

618

619

620

621

622

623

624

625

626

627

628

629

630

631

632

633

634

635

636

637

638

639

640

641

642

643

644

645

646

647

648

649

650

651

652

653

654

655

656

657

658

659

660

661

662

663

664

665

666

667

668

669

670

671

672

673

674

675

676

677

678

679

680

681

682

683

684

685

686

687

688

689

690

691

692

693

694

695

696

697

698

699

700

701

702

703

704

705

706

707

708

709

710

711

712

713

714

715

716

717

718

719

720

721

722

723

724

725

726

727

728

729

730

731

732

733

734

735

736

737

738

739

740

741

742

743

744

745

746

747

748

749

750

751

752

753

754

755

756

757

758

759

760

761

762

763

764

765

766

767

768

769

770

771

772

773

774

775

776

777

778

779

780

781

782

783

784

785

786

787

788

789

790

791

792

793

794

795

796

797

798

799

800

801

802

803

804

805

806

807

808

809

810

811

812

813

814

815

816

817

818

819

820

821

822

823

824

825

826

827

828

829

830

831

832

833

834

835

836

837

838

839

840

841

842

843

844

845

846

847

848

849

850

851

852

853

854

855

856

857

858

859

860

861

862

863

864

865

866

867

868

869

870

871

872

873

874

875

876

877

878

879

880

881

882

883

884

885

886

887

888

889

890

891

892

893

894

895

896

897

898

899

900

901

902

903

904

905

906

907

908

909

910

911

912

913

914

915

916

917

918

919

920

921

922

923

924

925

926

927

928

929

930

931

932

933

934

935

936

937

938

939

940

941

942

943

944

945

946

947

948

949

950

951

952

953

954

955

956

957

958

959

960

961

962

963

964

965

966

967

968

969

970

971

972

973

974

975

976

977

978

979

980

981

982

983

984

985

986

987

988

989

990

991

992

993

994

995

996

997

998

999

1000

Fig. 5: Dental record of the "home"-dentist: "filling of tooth 26 (occlusal-distal) and extraction of tooth 46"

Fig. 6: Dental record of the "WehrMedStatInstBW"

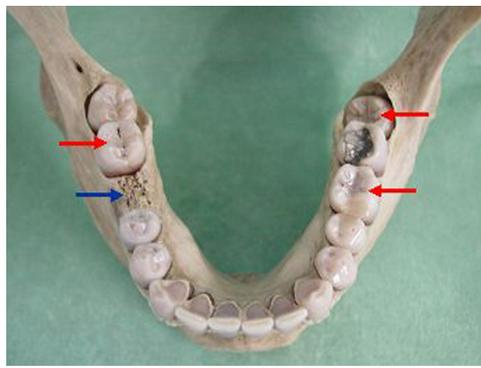
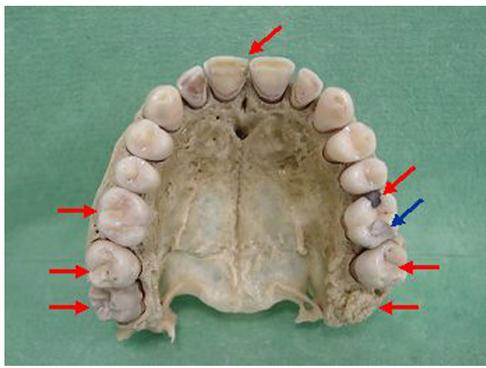


Fig. 7: macerated upper jaw: conserved by conservative treatments

Fig. 8: macerated lower jaw: conserved by surgical and conservative treatments

Case 3:

A since more than 30 years non-identified drowned corps was compared with the existing list of missing persons. It was registered, that a person exist, at the same time announced as missing and not be found. To receive a definitive result after 30 years the "WehrMedStatInstBW" was contacted again to clear whether unknown records were send to the Institute to be archived. Indeed further dental documents were found and examined by the expert. As the result of the examination it could be stated that the dead body, recovered 30 years ago in the river Rhine, was now identified. By order of the court the corps was exhumed (Fig. 9). The figure show that the dental records with the help of the "WehrMedStatInstBW" allowed the definite identification of the 30 years unknown body (Fig. 10).



Fig. 9: macerated upper and lower jaw: conserved by surgical, conservative and prosthetic treatments

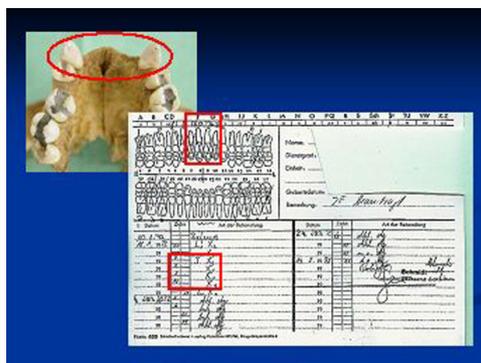


Fig. 10: macerated upper jaw: conserved by surgical and conservative treatments

Results

The know-how about 20 years of dental experts in identification cases shows, that unknown dead bodies were identified by the "WehrMedStatInstBW", when no or no exact dental records exist.

Over long-time safe-keeping archives of medical and dental records (up to the end of the 90th year of the soldiers) by the institute "WehrMedStatInstBW" allow -also after years- the comparison with post-mortem findings and may lead to the identification of unknown dead bodies. We recommend to contact the institute in those cases.

Literature

1. Endris R (1979) Praktische Forensische Odonto-Stomatologie. Kriminalistik Verlag Heidelberg
2. Grundmann C, Röttscher K (1999) Zur Sektionstechnik im orofazialen Bereich. Die Mazeration mit Enzymrim. Rechtsmedizin 9: 115-117
3. Grundmann C, Röttscher K (2005) The Odontological Identification of the Unknown Bodies. Int Poster J Dent Oral Med (IPJ), Vol 7, No 03, Poster 280
4. Gustafson G (1966) Forensic Odontology. Staples Press London
5. Lessig R, Benthaus S (2003) Forensische Odonto-Stomatologie. Rechtsmedizin 13: 161-169
6. Röttscher K (2000) Forensische Zahnmedizin. Springer Verlag Berlin
7. Röttscher K, Benthaus S, Grundmann C, Höhmann B (1999) Zur Dokumentation zahnärztlicher Befunde. Kriminalistik, 53, pp 411-413

Correspondence address:

Dr. med. Dr. med. dent. Claus Grundmann
Municipality of Duisburg, Public Health Office
Ruhrorter Straße 195
D-47119 Duisburg
Germany

Poster Faksimile:

German Society of Dental Oral and Craniofacial Sciences and German Society of Legal medicine
AFIO Association Française d'Identification Odontologique XX^{ème} Congrès de l'Á.F.I.O.
Jeudi 23 et Vendredi 24 Septembre 2010
DIJON - CELIER DE CLAIRVAUX

THE IDENTIFICATION OF CIVILIAN DEAD BODIES BY ARCHIVES OF ARMED FORCES
A contribution of the German Academy of Forensic Odontostomatology

Authors
Grundmann C, Duisburg, Röttscher K, Speyer, Benedix K-P, München, Lamberti H, Andernach

Abstract
The identification of unknown dead bodies depends on scientific and on non-scientific methods. Scientific methods include molecular-genetic examination (DNA), fingerprints and dental documents. Scientific methods are only successful when ante-mortem material exist to be compared with post-mortem evidence. Ante-mortem produced and stored DNA-profiles are relative seldom and therefore useless for routine check-up.

Keywords
Identification, Forensic Odontology, Archives of Armed Forces

Introduction
Most citizens in Germany frequent their dentists in more or less distances of time and their dental status is documented by dental records, including also x-rays. The registration of the visits of the armed forces, i.e. "Deutsche Bundeswehr", are also documented. Nevertheless it happens that criminalists are not successful in identifying dead bodies using the mentioned scientific methods (DNA, fingerprints and dental documents). The publication of dental data in dental journals as the "Zahnärztliche Mitteilungen" or "Rheinisches Zahnärzteblatt" are often without wanted success. Three samples show the support by the "Institut für Wehrmedizin, Zahnärztliche und Berichtswesen der Bundeswehr, Andernach (WehrMedStatInstBW)" to give dead bodies their names they had during life-time.

Material and Methods

Case 1:
A man was killed by a train by suicide. The identification of the person was extremely difficult, because no DNA, ante-mortem fingerprints and dental records existed. The criminalists contacted the "WehrMedStatInstBW", but the difference after the end of his time as soldier and the date of suicide (more than 20 years) did not allow the use of the existing dental records. Too much treatments afterwards, i.e. extractions of teeth in the upper jaw were done. In opposite the comparison of ante- and post-mortem x-rays of the lateral teeth (molars and premolars) of the left and right lower jaw (Fig. 1-4) lead to the exact identification of the unknown person treated at the Bundeswehr decades ago and was killed by train.

Case 2:
In a forest a completely deceased male dead body was found by walkers. The upper and the lower jaws were macerated and examined by a forensic dentist. Also in this case the suspicion existed, that it may be the since some weeks as missing registered person (Fig. 7: macerated upper jaw and Fig. 8: macerated lower jaw: conserved by surgical and conservative treatments). Usable DNA or fingerprints did not exist. The relatives of the dead body gave the criminalists the address of a "home"-dentist, who unfortunately did not use a correct record except the information about "filling of tooth 26 (occlusal-distal) and extraction of tooth 46" (Fig. 5). These information are not specific and they are unable as identification evidence. The criminalists contacted the "WehrMedStatInstBW" and received the dental records for identification (Fig. 6). The comparison of the record archived at the Bundeswehr (Fig. 7 and 8: "red") - in combination with the information of the "home"-dentist (Fig. 7 and 8: "blue") lead to the exact correspondence with the upper and lower jaw of the deceased male dead body.

Case 3:
A since more than 30 years non-identified drowned corps was compared with the existing list of missing persons. It was registered, that a person exist, at the same time announced as missing and not be found. To receive a definitive result after 30 years the "WehrMedStatInstBW" was contacted again to clear whether unknown records were sent to the Institute to be archived. Indeed further dental documents were found and examined by the expert. As the result of the examination it could be stated that the dead body, recovered 30 years ago in the river Rhine, was now identified. By order of the court the corps was exhumed (Fig. 9). The figure show that the dental records with the help of the "WehrMedStatInstBW" allowed the definite identification of the 30 years unknown body (Fig. 10).

Conclusion
The know-how about 20 years of dental experts in identification cases shows, that unknown dead bodies were identified by the "WehrMedStatInstBW", when no or no exact dental records exist. Over long-time safe-keeping archives of medical and dental records (up to the end of the 90th year of the soldiers) by the institute "WehrMedStatInstBW" allow -also after years- the comparison with post-mortem findings and may lead to the identification of unknown dead bodies. We recommend to contact the institute in those cases.

Bibliography
Endris R (1979) Praktische Forensische Odontostomatologie. Kriminalistik Verlag Heidelberg
Grundmann C, Röttscher K (1999) Zur Sektionstechnik im orofazialen Bereich. Die Mazeration mit Enzymen. Rechtsmedizin 9: 115-117
Grundmann C, Röttscher K (2005) The Odontological Identification of the Unknown Bodies. Int Poster J Dent Oral Med (IPJ), Vol 7, No 03, Poster 280
Gustafson G (1966) Forensic Odontology. Staples Press London
Lessig R, Benthaus S (2003) Forensische Odontostomatologie. Rechtsmedizin 13: 161-169
Röttscher K (2000) Forensische Zahnmedizin. Springer Verlag Berlin
Röttscher K, Benthaus S, Grundmann C, Höhrmann B (1999) Zur Dokumentation zahnärztlicher Befunde. Kriminalistik, 53, pp 411-413

Corresponding address
Dr. med. Dr. med. dent. Claus Grundmann
Municipality of Duisburg/Germany
- Public Health Office -
Viktoriastr. 8, D-47166 Duisburg
Tel +49-203-283-5264 Fax +49-203-283-5238 eMail: dr.gundmann@stadt-duisburg.de



Fig. 1 Lower right jaw. Teeth 41, 45, 46 and 43 (ante-mortem)



Fig. 2 Lower left jaw. Teeth 36, 37 and 38 (ante-mortem)



Fig. 3 Lower right jaw. Teeth 47, 48, 49 and 43 (post-mortem)



Fig. 4 Lower left jaw. Teeth 37, 38 and 39 (post-mortem)



Fig. 5 Dental record of the "home"-dentist. "Filling of tooth 26 (occlusal-distal) and extraction of tooth 46"



Fig. 6 Dental record of the "WehrMedStatInstBW"



Fig. 7 macerated upper jaw conserved by surgical and conservative treatments



Fig. 8 macerated lower jaw conserved by surgical and conservative treatments



Fig. 9 macerated upper and lower jaw conserved by surgical, conservative and prosthetic treatments



Fig. 10 macerated upper jaw conserved by surgical and conservative treatments