

Case Report Instructions EMSAVM / MASVM Dentistry

General instructions

- Case reports, written in prose, must be in a problem-oriented approach and include a complete presentation of the case, illustrations where necessary, literature review on the subject with references and a discussion. Candidates must demonstrate a comprehensive understanding of the topic.
- A case report should contain 2000 words +/- 10%, excluding tables, references and appendix.
- The 10 cases must be a mixture of various species, problems and diagnosis, all pertaining to the selected master's program. Candidates are required to keep a table of the already submitted cases which shall be send with each new case report submission. The ESAVS Office will provide an Excel template for the table below:

Case Nr.	Species	Problem/s	Diagnosis
----------	---------	-----------	-----------

- Candidates are advised to submit cases shortly after beginning and throughout the program and not all cases at the end of the program.
- ESAVS cannot guarantee the evaluation of more than 3 case reports per semester. To ensure an evaluation in a specific semester, reports should be submitted no later than the given deadline for the respective semester (please see [Important Dates](#) on the ESAVS website).

Cases should be set out under the following headings:

- Title
- Signalement
- Case History
- Physical Examination
- Differential diagnosis and final diagnosis
- Medical and surgical treatments
- Post-operative care
- Results and control
- Discussion of case in relation to current literature (no repetition of literature but a discussion why the case fits or does not fit what is known)
- References
- Pictures, including captions (if necessary)

Each case report is viewed by one member of the Examination Board and graded on a 0-20 scale (<10= fail, 10-11.9 = sufficient, 12-13.9 = fair, 14-15.9 = good, 16-17.9 = very good, 18-20 = excellent).

Evaluation of a case report

Step 1: Is the case report acceptable?

Is the case described in the report suitable at all? Reasons to reject a case are:

- A case is too simple (e.g. professional dental cleaning in a dog or cat)
- Lack of an adequate number of state of the art clinical tests to arrive at a diagnosis (or at least a presumptive diagnosis). The case could be resubmitted when the lacking information can be retrieved.
- Inadequate surgical technique
- The animal's life was endangered by excessive/unnecessary diagnostic tests or treatments (including surgery). Such a case cannot be resubmitted.
- A case that falls not within the specified master program
- Most diagnostic tests and interpretation are done by a referring veterinarian
- Inadequate follow-up of a case (e.g. diagnosis reached after euthanasia with no follow-up available)
- Multiple cases all with the same problems or diagnosis
- After submission of certain number of the case reports the candidate should pay attention at adequate representation in terms of problems, species and categories.
- Cases not seen during the enrollment in the program of the master student or where the master student is not the primary responsible clinician
- A case in which there is plagiarism or simple repetition of other submitted case reports
- When techniques applied in patient treatment are controversial or not accepted in standard veterinary dentistry.

If a case is rejected the case report is assigned 0 points. The reason will be stated in the evaluation.

Step 2: Grading of the accepted case report

The case report will be evaluated based on a check sheet

An accepted case can reach a maximum of 20 points. A minimum of 10 points is required to pass.

The check sheet (see below) contains a list of 12 potential inadequacies. For each one the examiner can allocate a number of points. At the end a total number of points are given.

Recommendations for the candidate to avoid deduction of points:

- Make sure the history is sufficient both: general and dental/maxillofacial.
- Give all details of the physical exam, apply the standard methods used for veterinary dentistry (dental chart, intraoral radiography etc)
- Reported tests need to be relevant for the animal: XRays, CT
- Explain how you came to the diagnosis
- Be precise in the description of the treatment, use the medical terms/professional language suggested during courses, avoid common language (e.g. "the tooth was extracted" instead of „ the tooth was pulled out" or "the patient did not express any discomfort" instead of "the patient was happy")
- Discuss the case – do not just repeat text book knowledge! Bring relevant literature to justify your treatment
- Be sure your treatment was appropriate and discuss the alternative options
- Be precise about results and complications
- Follow standards backed up by evidence based medicine

Case Report Evaluation Check Sheet / Dentistry

Grading Criteria:

For students who have enrolled in a Master of Advanced Studies in Veterinary Medicine (MASVM) or European Master of Small Animal Veterinary Medicine (EMSAVM) program **before the winter semester 2024-2025**, the following grading criteria apply:

- The grades of the individual case reports are averaged to obtain one single grade. When this average grade is **below 10**, candidates are requested to resubmit revised versions of the failed case reports or new cases.
- A case report may not be acceptable and may be rejected if critical concerns in one (or several) areas result in a fail, regardless of whether all other required criteria are adequately met.

For students who have enrolled in a Master of Advanced Studies in Veterinary Medicine (MASVM) program for the first time **from the winter semester 2024-2025 onwards**, the following **new** grading criteria apply:

- 1. Pass = 10 points and more
- 2. Fail (case report insufficient) = below 10 points
 - modifications required - resubmission possible
 - case report insufficient - 0 points resubmission of this case report not possible - a new case report needs to be submitted
- **IMPORTANT:** the **average grade** for the module must be **13 points or higher** and none of the case reports must be graded below 10 points.
- A case report may not be acceptable and may be rejected if critical concerns in one (or several) areas result in a fail, regardless of whether all other required criteria are adequately met

*The maximum grade of a case report is 20 points. The second column indicates the maximum number of points that can be reached.
In the third column the examiner indicates the number of achieved points, half points may also be allocated.*

	Maximum points	Allocated points
Complete signalment, history and physical examination <i>Comments:</i>	1	
Oral and maxillofacial examination <i>Comments:</i>	1	
Choice of tests and assessment <i>Comments:</i>	1	
Quality representation of diagnostic tests (e.g. radiographs, photographs) <i>Comments:</i>	2	
Correct or justified diagnosis <i>Comments:</i>	2	
Adequate or appropriate medical management <i>Comments:</i>	2	
Adequate oral / dental treatment <i>Comments:</i>	4	
Adequate anaesthetic and analgesic management <i>Comments:</i>	2	
Adequate follow-up for the case report to be meaningful <i>Comments:</i>	1	
Appropriate discussion, adequately referenced <i>Comments:</i>	2	
Language and word count adequate <i>Comments:</i>	1	
Special features not covered above <i>Comments:</i>	1	
TOTAL POINTS / GRADE	20	

There is no “perfect” case and thus the attached example should be viewed more as how to present your case.

For another example, please see this article in the JVD:

Ignacio Velazquez-Urgel, Melissa D. Sanchez, Mary E. Buelow, Lenin A. Villamizar-Martinez and Alexander M. Reiter, Dipl. Tzt. : Maxillary and Mandibular Peripheral Odontogenic Fibromas (Fibromatous Epulides of Periodontal Ligament Origin) in a Cat; Journal of Veterinary Dentistry 2018, Vol. 35(4) 251-257, DOI: 10.1177/0898756418812100

You may also access the article via the ESAVS eLibrary:

<https://mediacenter.schweitzer-online.de/esavs>

In order to subscribe to the eLibrary, please contact: e-campus@esavs.eu

Case report #

Candidates name:

Program: *Master of Advanced Studies in Veterinary Medicine / Dentistry*

Case report Number:

Date of submission:

Word count:

Persistent deciduous maxillary canines and malocclusion class I in a dog

Signalement: Dog “Charly”, wire-haired Dachshund, male, born 01/03/2020 (6.5 months of age), dark grey with brown, 4 kg

Case history: The pet owner obtained the dog at the age of 3 months at a breeder. During the first weeks, the dog had no problems with the deciduous dentition. He lost his first deciduous tooth at the age of 14 weeks and at 6 months his permanent dentition was complete. As the owners checked the teeth quite regularly, they soon realized that the dog still had his deciduous maxillary canines while the permanent ones had already erupted. The private veterinarian told the owners that the deciduous canines would certainly fall out soon and that they should not worry too much. However, the pet owners wanted a second opinion on that matter and made an appointment at our clinic.

Physical examination: the dog was bright, alert and responsive, all vital parameters were within normal ranges and no abnormalities in cardiac and thoracic auscultation were detected.

Extraoral examination: The skull and the face were symmetric; no discrepancies in maxillary and mandibular jaw length could be seen. Mobility of the mandible in lateral and rostral-caudal direction as well as the jaw opening was normal. There was no swelling in the facial area and no nasal or ocular discharge. Lymph nodes were of normal size.

Intraoral examination: The dog showed a complete permanent dentition. The incisors occluded correctly in a scissors bite, with the mandibular incisors touching the cingulum of maxillary incisors. Interdigitation of premolar teeth was normal. No teeth were missing but the maxillary deciduous canines were still present with their permanent successors erupting mesial to them. The mandibular canines exhibited a grade 1 linguoversion (Fig.1), which resulted in the crown tip resting in the gingiva labial to the alveolar ridge. Due to the mesioversion of the maxillary canines, the diastema was too narrow to fully accommodate the mandibular canines.

Case assessment: The persistent deciduous maxillary canines are responsible for the mesioversion of the permanent maxillary canines because they act like a barrier. In consequence, the maxillary diastema is too narrow for the lower canine crowns which are also slightly linguoverted. The dog has a dental malocclusion

class I with bilateral mesioversion of maxillary canines and linguoversion of mandibular canines while maxillary and mandibular dental arches show a normal relationship.

Since the persistent maxillary canines are completely fixed and not mobile, it can be anticipated that they will not fall out on their own, what they normally don't do when their successors are already present. The persistent canines should be extracted as soon as possible as they not only cause narrowing of the maxillary diastema, but also can promote early onset of periodontal disease due to crowding. The current malocclusion with the mandibular canines pressing on the gingiva in the maxillary diastema is supposed to cause discomfort and pain; therefore a multi-stage treatment plan will be discussed with the owners. The goal of our treatment is patient's comfort and functionality, not any cosmetic improvements. The owners are very dedicated and compliant, which is extremely important in orthodontic cases. They know that several anesthesia sessions will be necessary before a final result can be achieved.

Treatment plan: The first step would be interceptive orthodontics and an appointment for extraction of persistent deciduous maxillary canines was made for the next day. Preoperative hematology and standard blood chemistry examination was already done during first appointment (Tab.1). Extraction of deciduous teeth should be performed with extreme caution as they are fragile and have long, thin roots which can fracture easily. Care must be taken not to harm the permanent tooth or its root. Open surgical extraction is recommended for deciduous canines.

The next step would be corrective orthodontics with active treatment and retention. The goal would be to displace the maxillary canines distally, to create a sufficiently large space for the occlusion of the mandibular canines. This tooth movement (tipping) can be best achieved with an active orthodontic device (buttons and elastic chain). After moving the maxillary canines into the desired position, a retention phase must be taken into account to stabilize the teeth in their new position. Creating sufficient space for the crowns of the mandibular canines can already lead to normal occlusion, especially in a grade 1 linguoversion. If more labioversion needs to be achieved, there are several methods to move the lingually displaced canines:

- Ball therapy
- Gingivectomy, Gingivoplasty, Osteoplasty of maxillary diastema
- Inclined plane (direct or indirect acrylic planes, telescoping planes)
- Crown extensions

Anesthesia: As the dog was quite twitchy it was difficult to place a venous catheter. Thus, the dog was sedated intramuscularly with 0.2 mg/kg Butorphanol^a, 0.008 mg/kg Medetomidin^b and 1 mg/kg Ketamin^c for premedication. After some minutes the dog was relaxed enough to place a venous catheter in the right V. cephalica. For induction, 2 mg Propofol^d was given intravenously to enable placement of an endotracheal tube. Anesthesia maintenance was performed with an oxygen/isoflurane mixture. Perioperative infusion therapy was with an isotonic balanced electrolyte solution^e at a rate of 5mL/kg/h. Anesthesia monitoring included non-invasive blood pressure determination, ECG, pulse oximetry and capnography.

Treatment: The dog was placed in lateral recumbency, and a local nerve block was performed on maxillary nerves with 0.25 mL of lidocaine 2%^f each. The mouth was rinsed with a 0.12% chlorhexidine solution^g. A dental chart was filled out (Tab.2) and dental radiographs were taken from the upper canines (Fig.2-4). Open surgical extraction of 504 and 604 was performed to reduce the risk of breaking the thin, fragile roots during closed extraction attempts (Fig.16-20). Care was taken not to apply any leverage on the permanent canines to avoid damaging the tooth. Wounds were closed with single interrupted sutures using Monosyn 4/0 monofilament suture material^h and dental radiographs were taken to confirm complete extraction (Fig. 5-6).

Recovery from anesthesia was uneventful and the dog was discharged with the instruction for oral administration of 0.1 mg/kg Meloxicamⁱ for 3-4 days. After wound healing 10 days post-surgery the dog was

rescheduled for application of an active orthodontic device with the aim of moving 104 and 204 distally to create sufficient space for unimpeded occlusion of 304 and 404.

The same anesthetic protocol was used during the second procedure. Two anchorage teeth were used for the application of the elastic chain and button system (108/109 and 208/209), taking into account the fact that for moving the canine it is necessary that the root surface of the anchorage teeth combination is larger than the root surface of the target tooth. Dental radiographs were taken of the maxillary canines as well as from 4th premolars and 1st molars (Fig.7-11). Subsequently, all involved tooth surfaces were etched with 37% phosphoric acid^j for 15 seconds and then thoroughly rinsed and dried (Fig.21-22). A bonding agent^k was applied and light cured^l. A metal button^m with some amount of compositeⁿ was then pressed on the tooth surface and composite was also light cured. The buttons were placed on the buccal surface near the cervical third of the crowns on the anchorage teeth; one button each on mesial and distal cusp of 108 and one on mesial cusp of 109 (Fig.23). Using a 0.4mm cerclage wire, that was drilled, the distal button of 108 and the mesial button of 109 were fixed together (Fig.24-25) and covered with flowable composite^o to form one anchorage unit. In the same way, a button was placed on the labial surface of the canine in the middle to coronal third of the tooth and a dental X-ray was done (Fig.12). An elastic chain^p was attached around the knob of both buttons (Fig.26) and finally the distance between the tips of 103 and 104 and the distance between the middle third of the teeth was measured with the parodontometer (Fig. 27-28). The same procedure was repeated on the other side. During the first week, the chain was tightened only lightly to stimulate physiologic movement, after which the chain was reduced by about 20% of its initial length. Excessive force should be avoided and should not exceed the capillary pressure of the periodontal ligament (20-26g/cm²). Postoperatively, NSAIDs were avoided as they would interfere with the process of bone resorption through prostaglandin inhibition. Actually the behavior of the dog was completely normal, so administration of other pain medication was considered not necessary. Owners were instructed to control and carefully clean the application twice daily.

Diagnosis: Persistent deciduous maxillary canines; MAL 1/MV (maxillary canines); MAL 1/LV (mandibular canines)

Follow up: the dog came for weekly check-ups where the elastic chain was shortened to ensure continuous traction (Fig.29-34). After a period of 4 weeks the canines had reached the preferred position. Traction force of the elastic chain was then released for another 2 weeks to keep the tooth in position (retention phase) (Fig.35-36). After 6 weeks of treatment the buttons were carefully removed under short anesthesia and teeth were polished (Fig.37-40). The distances between the 3rd incisor and canine were measured again (Fig.41-44) and radiographs were taken (Fig.13-15). The linguoverged lower canines had moved in their correct position without further intervention and normocclusion was finally achieved (Fig.45-47).

Discussion:

The occurrence of malocclusion in dogs, acquired or inherited, is a common dental abnormality (Berman, Soltero-Rivera & Scanlan, 2023). The underlying causes comprise nutritional, endocrine, and toxic effects or local factors such as inconsistent eruption patterns or persistent deciduous teeth. Although persistent deciduous teeth can occur in any breed, small and toy breed dogs appear particularly predisposed for this condition (Gawor&Niemic, 2021; Hobson, 2005). The prevalence of persistent deciduous teeth can be as high as 15% in very small dogs followed by 6,1% in small dogs such as Dachshund (Wallis, Ivanova & Holcombe, 2024). Along the natural eruption path, a permanent tooth exerts pressure on the apex of the deciduous tooth, which leads to its root-end resorption. However, an incorrect eruption pathway of the permanent tooth can disrupt the resorption process and is the main reason for persistent deciduous dentition,

which is the most common problem in pediatric canine dentistry (Gawor&Niemiec, 2021). In consequence, the permanent tooth remains in a position that is too far forward and the diastema between the 3rd incisor and the canine, into which the mandibular canine would fit, is too narrow. This kind of malocclusion, with bilateral mesioversion of the maxillary canines and linguoversion of the mandibular canines, is a typical class I dental malocclusion, accounting for 60% of deciduous malocclusions observed in the retrospective study by Berman et al. (Berman *et al.*, 2023). The specific linguoversion of one or both mandibular canine teeth was found in 72% of dogs with type I malocclusion in a large retrospective analysis (Berman *et al.*, 2023).

The required treatment consisted of two parts, the first of which involved the extraction of the deciduous canines to create space for the permanent teeth to move backwards to their proper place (Hobson,2005). However, this movement of the tooth can be assisted through an active orthodontic device. Accordingly, in a second operation the dog is provided with such an appliance, by fixing brackets to the canine and to P4 and M1 in the back, which together act as anchors, and by attaching an elastic rubber chain to them (Lobprise, 2019). The use of two teeth is required to provide sufficient resistance, so that the root surface of the anchor teeth exceeds the root surface of the tooth to be moved. Accordingly, two cheek teeth must serve as abutments, as one single tooth would be pulled forward by the canine instead of the other way around. Similar procedures have been described for the correction of maxillary tooth mesioversion (Legendre & Stepaniuk, 2008) and for the management of mesioverted maxillary teeth and linguovered mandibular teeth in other case reports (Volker & Luskin, 2016).

Since, as a consequence of moving the canine backwards, the diastema became larger and it was accomplished that the mandibular canines tilted outwards into the correct position. If this had not been the case, various other ways of moving the teeth would have needed consideration, depending on the severity of the malocclusion. In mild cases of lingually displaced canine teeth, it sufficed to frequently (minimum 3x/day for 15minutes) stimulate the dog to play with specific rubber toys of appropriate size and shape, allowing simple and non-invasive correction of the malocclusion (Verhaert, 1999). In case of reluctance of the dog to play with the ball, gingivectomy, gingivoplasty, and osteoplasty of maxillary diastema as described by Smith (Smith, 2013) is an adequate method to gain room for the mandibular canines in grade 1 LV. More severe cases were corrected through inclined planes (Haggerty, Block, & Battig, 2021; Peruga *et al.*, 2022) or crown extensions (Storli, Menzies, & Reiter, 2018; MacKenzie, 2021). In case of class II malocclusions (mandibular distoclusion) with the mandibular canines located palatal to the maxillary canines, crown reduction and vital pulp therapy might be the most straight forward solution for termination of palatal trauma (Blanchard & Koehm, 2018).

In the case presented here, 4 weeks were needed to pull the canines into the desired position, and 2 weeks further the orthodontic device could be removed, as normocclusion had been achieved.

References

- Berman M, Soltero-Rivera M, Scanlan AJF. 2023. Prevalence of Dental and Skeletal Malocclusions in Mesaticephalic and Dolichocephalic Dogs-a Retrospective Study (2015-2018). *Journal of veterinary dentistry* 40: 143–153.
- Blanchard K, Koehm J. 2018. Crown Reduction and Vital Pulp Therapy in a Dog With Malocclusion. *Journal of veterinary dentistry* 35: 217–220.
- Eickhoff M. 2005. Fehlerhafte Zahnstellungen. In: Zahn-, Mund- und Kieferheilkunde bei Klein- und Heimtieren, Enke Verlage in MSV Medizinverlage Stuttgart, Germany, p. 49-59.
- Gawor, J., Niemiec, B., 2021. Dentistry through life: Pediatric and geriatric dentistry. In: The Veterinary Dental Patient: A Multidisciplinary Approach, First edn. John Wiley & Sons Ltd., Hoboken, New Jersey, USA, p. 245–257
- Haggerty K, Block K, Battig J. 2021. Orthodontic Inclined Plane Application Using a Visible Light Cure Acrylic Material for Treatment of Linguovered Mandibular Canine Teeth. *Journal of veterinary dentistry* 38: 99–104.

- Hobson, P., 2005. Extraction of retained primary canine teeth in the dog. *J. Vet. Dent.* 22, 132–137.
- Lobprise H. 2019. Occlusion and Orthodontics. In Lobprise H, Dodd JRB (eds) *Wiggs's veterinary dentistry: Principles and Practice 2nd edition*. (p.411-437). Wiley Blackwell, Hoboken, NJ
- Legendre L, Stepaniuk K. 2008. Correction of maxillary canine tooth mesioversion in dogs. *Journal of veterinary dentistry* 25: 216–221.
- MacKenzie S. 2021. Orthodontic Treatment for Linguoversion of Mandibular Canine Teeth Using Crown Extensions. *Journal of veterinary dentistry* 38: 161–167.
- Peruga M, Piątkowski G, Kotowicz J, Lis J. 2022. Orthodontic Treatment of Dogs during the Developmental Stage: Repositioning of Mandibular Canine Teeth with Intercurrent Mandibular Distocclusion. *Veterinary sciences* 9.
- Smith MM. 2013. Gingivectomy, gingivoplasty, and osteoplasty for mandibular canine tooth malocclusion. *Journal of veterinary dentistry* 30: 184–197.
- Storli SH, Menzies RA, Reiter AM. 2018. Assessment of Temporary Crown Extensions to Correct Linguoverged Mandibular Canine Teeth in 72 Client-Owned Dogs (2012-2016). *Journal of veterinary dentistry* 35: 103–113.
- Verhaert L. 1999. A removable orthodontic device for the treatment of lingually displaced mandibular canine teeth in young dogs. *Journal of veterinary dentistry* 16: 69–75.
- Volker MK, Luskin IR. 2016. Management of Mesioverted Maxillary Canine Teeth and Linguoverged Mandibular Canine Teeth. *Journal of veterinary dentistry* 33: 170–184.
- Wallis C, Ivanova A, Holcombe LJ. 2024. Persistent deciduous teeth: Association of prevalence with breed, breed size and body weight in pure-bred client-owned dogs in the United States. *Research in veterinary science* 169.

^a Torphadine 10mg/ml, Dechra veterinary products, Dornbirn, Austria

^b Sedadex 0,5mg/ml, Dechra veterinary products, Dornbirn, Austria

^c Ketamidol 100mg/ml, Girovet, Richter Pharma, Wels, Austria

^d Propofol® Lipuro 10mg/ml, B.Braun, Maria Enzersdorf, Austria

^e Ringer Solution nach Hartmann B.Braun, B.Braun, Maria Enzersdorf, Austria

^f Xylanest® purum 2%, Gebro Pharma, Fieberbrunn Austria

^g Gum® Paroex Chlorhexidin 0,12%, Sunstar Gum, Schöna, Germany

^h Monosyn® USP 4/0, Glyconate monofilament, absorbable, tapered, B.Braun, Maria Enzersdorf, Austria

ⁱ Meloxoral 1,5mg/ml, oral suspension, Dechra veterinary products, Dornbirn, Austria

^j Pluraetch+, Pluradent, Elmshorn, Germany

^k Adhese® Universal Viva Pen, Ivoclar Vivadent, Ellwangen, Germany

^l Bluephase® Easy Cure, Ivoclar, Vivadent, Ellwangen, Germany

^m Orthodontic Lingual Buttons Round with Holes (Bondable), 3,5mm, IM3, Duleek, Ireland

ⁿ Tetric Evo Ceram Composite, Ivoclar Vivadent, Ellwangen, Germany

^o Tetric Evo Flow Composite, Ivoclar, Vivadent, Ellwangen, Germany

^p Power Chain blue, IM3, Duleek, Ireland

Labordiagnostik

Department für Biologische Wissenschaften und Pathobiologie
 Veterinärmedizinische Universität Wien

Veterinärplatz 1, 1210 Wien, T +43 1 253 77-5110

vetmeduni

www.vetmeduni.wu.at/zentrallabor
 zentral@vetmeduni.ac.at

**Laborbefund**

Berundet von:

Protokollnummer:

Befund vom:

15.03

Auftrag:

Besitzer:

Rauhhaardackel CHARLY, männlich

Alter: 6 Monate

Geburtsdatum: 01.03.20

FallNr:

TierNr:

Untersuchung	Wert Einheit	Referenzbereich	Abw.
Hämatologie			
Erythrozyten	7.89 $10^9/l$	5.50 - 8.00	
Hämoglobin	18.5 g/dl	12.0 - 18.0	
Hämatokrit	55.00 %	37.00 - 55.00	
MCV	66.7 fl	60.0 - 77.0	
MCH	25.3 pg	18.0 - 24.5	
MCHC	34.4 g/dl	31.0 - 34.0	
Leukozyten	6630 $0/l$	6000.0 - 15000.0	
CHCM	34.1 g/dl		
MPV	21.7		
RDW	12.80 %	12.00 - 13.20	
Differentialblutbild			
Stabkernige	0.0 %	< 4.0	
Segmentkernige	79.7 %	55.0 - 75.0	
Lymphozyten	15.7 %	15.0 - 30.0	
Monozyten	3.7 %	< 5.0	
Eosinophile	1.3 %	< 4.0	
Basophile	0.5 %	< 1.0	
large unstained cells	0.2 %	< 1.0	
Lymphoblasten	0.0 %		
Juvenile	0.0 %		
Stabkernige	0.01 $1/l$	< 500.00	
Segmentkernige	5085.21 $1/l$	3300.00 - 11200.00	
Lymphozyten	1040.81 $1/l$	700.00 - 4500.00	
Monozyten	377.91 $1/l$	< 500.00	
Eosinophile	86.18 $1/l$	< 300.00	
Basophile	33.18 $1/l$	< 150.00	
large unstained cells	13.26 $1/l$	< 150.00	
Lymphoblasten	0.01 $1/l$		
Juvenile	0.01 $1/l$		

ACHTUNG: automatisiertes Blutbild (inkl. Diffbb) methodisch bedingt
 unklassifizierbare Zellen (LUC= large unstained cells) liegen < 1 %.

Chemie

Kreatinin	0.40 mg/dl	0.40 - 1.20
Totalprotein	6.05 g/dl	5.60 - 7.50

Untersuchung	Wert	Einheit	Referenzbereich	Abw.
Albumin	3.72	g/dl	2.58 - 4.73	
GLDH	5.98	U/L	< 13.00	

Table 1

Dental Chart

PRIOR DIAGNOSTICS
☐ Radiographs ☐ CT (Head, ...)
☐ MRI (Head, ...)
☐ OPG ☐ CBCT
☐ Intraoral ☐ Extraoral
☐ Specialized examinations

EXTRAORAL
 Gender: **Charly**
 Date of Birth: **6/11/88**
 Sex: **♂**
 Dental Radiographs: ☒ Panoramic ☐ Cephalometric ☐ Video

DATE: 20.9.20
CLINIC: (Zentrum für Zahnmedizin)
CLINIC: (Zentrum für Zahnmedizin)
CLINIC: (Zentrum für Zahnmedizin)

CLINIC: (Zentrum für Zahnmedizin)
CLINIC: (Zentrum für Zahnmedizin)
CLINIC: (Zentrum für Zahnmedizin)
CLINIC: (Zentrum für Zahnmedizin)
CLINIC: (Zentrum für Zahnmedizin)
CLINIC: (Zentrum für Zahnmedizin)

CLINIC: (Zentrum für Zahnmedizin)
CLINIC: (Zentrum für Zahnmedizin)
CLINIC: (Zentrum für Zahnmedizin)
CLINIC: (Zentrum für Zahnmedizin)
CLINIC: (Zentrum für Zahnmedizin)
CLINIC: (Zentrum für Zahnmedizin)

CLINIC: (Zentrum für Zahnmedizin)
CLINIC: (Zentrum für Zahnmedizin)
CLINIC: (Zentrum für Zahnmedizin)
CLINIC: (Zentrum für Zahnmedizin)
CLINIC: (Zentrum für Zahnmedizin)
CLINIC: (Zentrum für Zahnmedizin)

		10		11		12		13		14		15		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		1001		1002		1003		1004		1005		1006		1007		1008		1009		1010		1011		1012		1013		1014		1015		1016		1017		1018		1019		1020		1021		1022		1023		1024		1025		1026		1027		1028		1029		1030		1031		1032		1033		1034		1035		1036		1037		1038		1039		1040		1041		1042		1043		1044		1045		1046		1047		1048		1049		1050		1051		1052		1053		1054		1055		1056		1057		1058		1059		1060		1061		1062		1063		1064		1065		1066		1067		1068		1069		1070		1071		1072		1073		1074		1075		1076		1077		1078		1079		1080		1081		1082		1083		1084		1085		1086		1087		1088		1089		1090		1091		1092		1093		1094		1095		1096		1097		1098		1099		1100		1101		1102		1103		1104		1105		1106		1107		1108		1109		1110		1111		1112		1113		1114		1115		1116		1117		1118		1119		1120		1121		1122		1123		1124		1125		1126		1127		1128		1129		1130	
--	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--	------	--

Table 2

Presenting Complaint: 1. unerupted canines 2. orthodontic stimulus	5
Date last noted:	

Non-Cus Problem List	
Current Malocclusion:	

Oral Problem List	
deciduous persistent max. canines mesioversion of permanent max. canines linguoversion of mand. canines	

Assessment of Oral Problems	
persistent deciduous canines (PDC) but like a barrier for perm. successors → mesioversion → max. diastema too narrow → MAL 1 / LV mand. can. → MAL 1 / MV max. can. overcrowding → orthodontics	

Plan 1) interceptive orthodontics → extraction of PDC 2) corrective orthodontics → power elution 3) if necessary additional procedures for laboversion of mand. canines (crown ext. for)	
--	--

Examination	History	ASD	CV	1277	Diagnosis
Malocclusion	Infected	10.25 nt			9.25 nt
Little	Infected	nt			nt
...	Infected	nt			nt

Verdict:	
OP I: open surgical extraction of PDC 504, 604 Ground closure mesosyn 4/6.5	
OP II: eluting of buccal teeth surfaces with phosphoric + bonding with Vapo pen light-curing Placing lingual buttons on mesial cusp of U4 and mesial and distal cusp of P4 with translucent comp. Light curing. One inward button of M1 and distal button of P4 (buccal) and covering this on average used with flowable composite Some procedure with buccal surface of max. canines sealing bonding, light curing Buttons with composite Blocker elution = 1N	

Post OP 4: Dieckhagen instructions & indications:	
OP I: Mesosyn 4/6.5 kg for 3-4 days	
OP II: No NSAID, avoid instructions for fluid, steady control of orthodontic appliance band cleaning	

Follow-up:	
Power elution:	
week 1, week 2, week 3, week 4	
stretching 1 hole	
2 weeks retention phase	
removal of appliance after 6 weeks → No orthodontics	

maxillary



mandibular

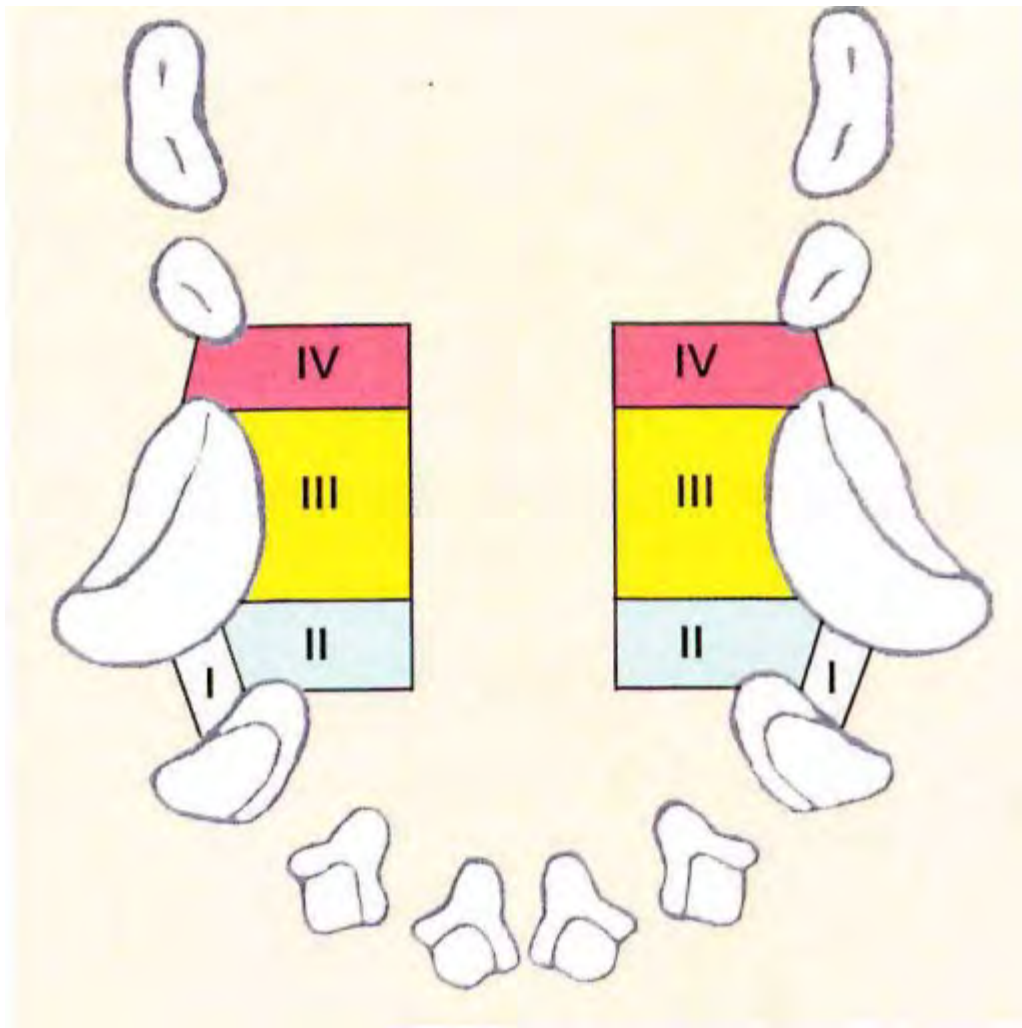


Abb. 5.11 Schema nach Fahrenkrug und Röcken zur Befundung des Einbisses der Unterkiefercanini am Gaumen.

Fig.1 Schema according to Fahrenkrug and Röcken for assessment of bite of mandibular canines

Dental radiographs
(Extraction of persistent maxillary canines)



Fig.2



Fig.3

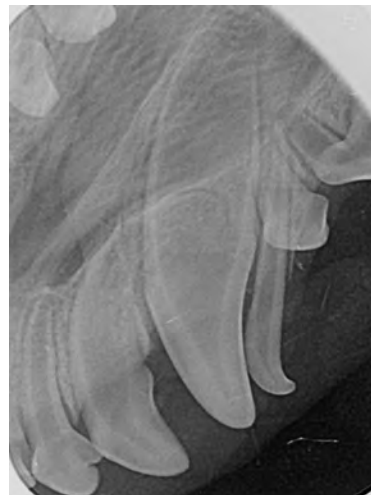


Fig.4

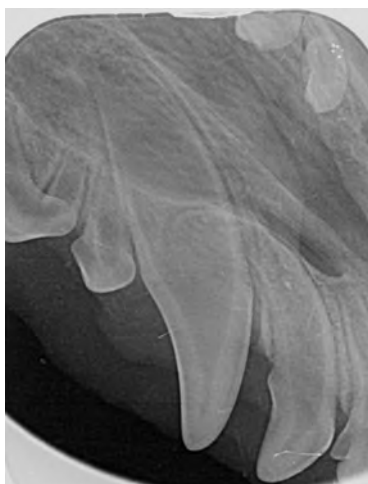


Fig.5



Fig.6

Dental radiographs (orthodontic treatment)



Fig.7

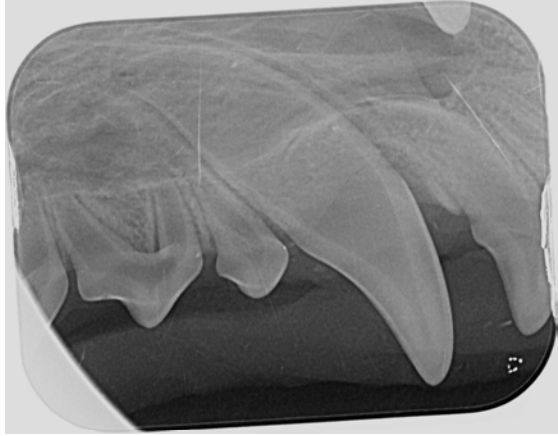


Fig.8

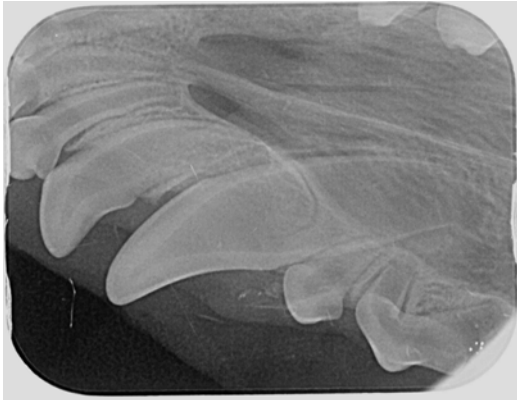


Fig.9

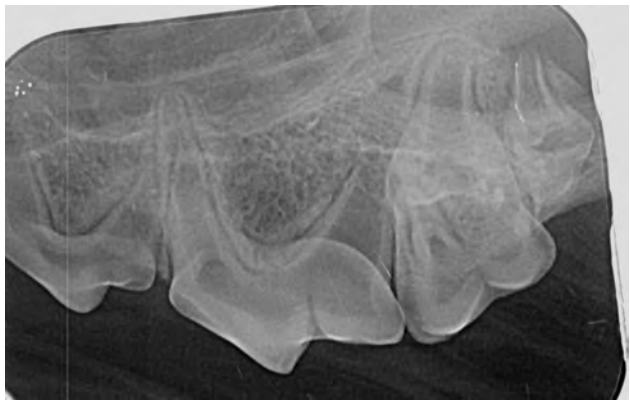


Fig.10



Fig.11



Fig.12



Fig.13 after removal of brackets



Fig.14



Fig.15

Fotos



Fig.16



Fig.17

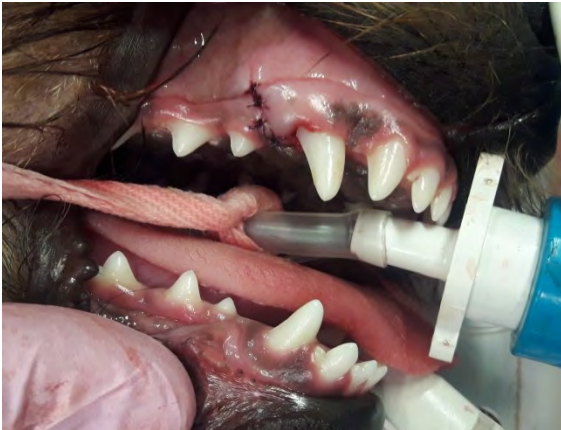


Fig.18



Fig.19



Fig.20



Fig.21



Fig.22 Etching



Fig.23 placing the buttons



Fig.24 connecting P4 and M1 with a twisted wire



Fig.25



Fig.26 elastic chain

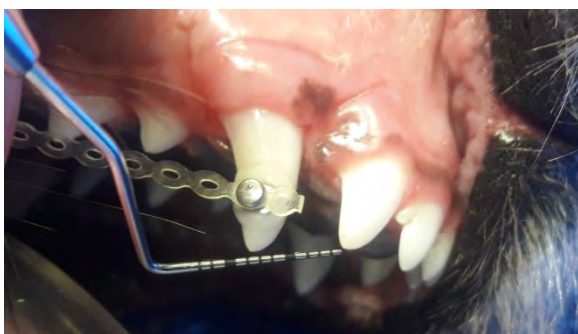


Fig.27 measurement from tip to tip: 7.5 mm



Fig.28 measurement middle part of the crown: 4 mm

First recheck after 1 week



Fig.29



Fig.30

Recheck after 2 weeks



Fig.31



Fig.32 hair and food entrapped under the button

Recheck after 3 weeks

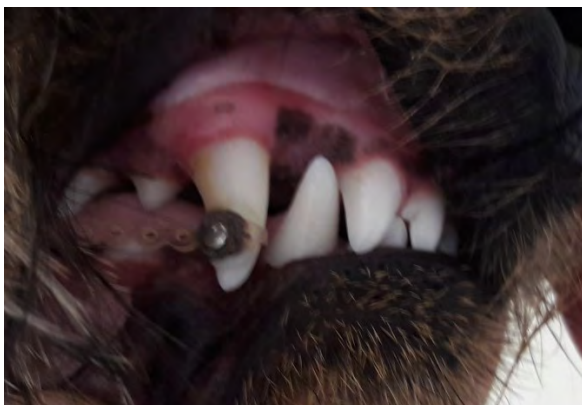


Fig.33



Fig.34

Recheck after 4 weeks (retention phase)

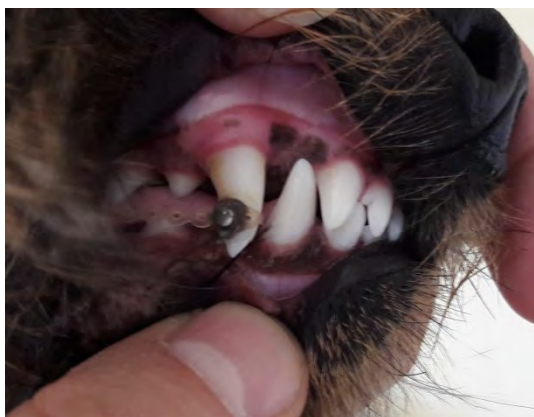


Fig.35



Fig.36

Recheck after 6 weeks (removal of appliance)



Fig.37



Fig.38



Fig.39



Fig.40

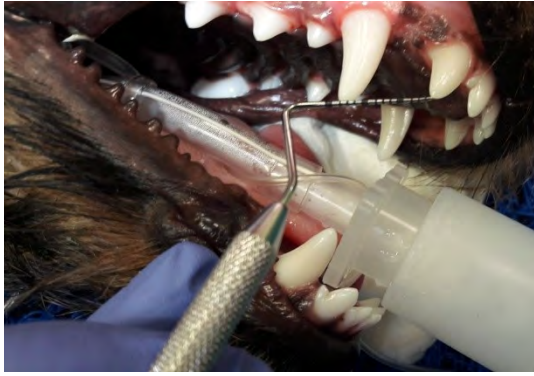


Fig.41 measurement from tip to tip: 13 mm



Fig.42 measurement middle part of the crown: 13 mm



Fig.43 measurement from tip to tip: 13 mm



Fig.44 measurements middle part of the crown: 13 mm



Fig.45

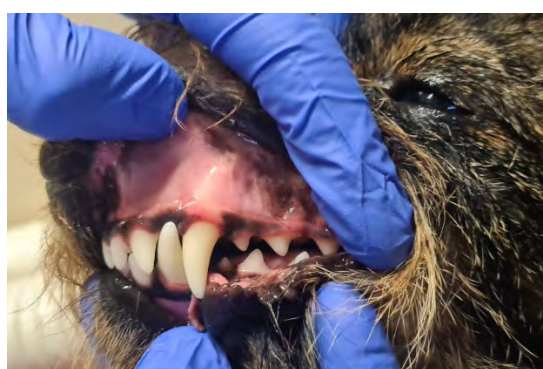


Fig.46

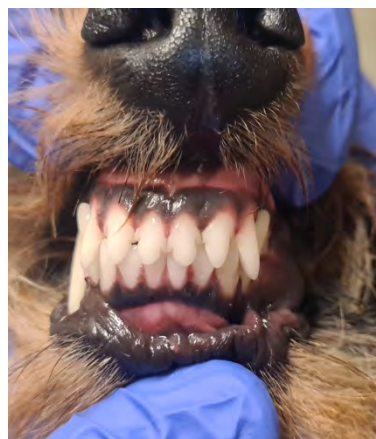


Fig.47 Normocclusion

Case Report Evaluation Check Sheet

Dentistry

Case report # / title: **Persistent deciduous maxillary canines and malocclusion class 1 in a dog**

	Maximum points	Allocated points
Complete signalment, history and physical examination <i>Comments:</i>	1	1
Oral and maxillofacial examination <i>Comments:</i>	1	1
Choice of tests and assessment <i>Comments:</i>	1	1
Quality representation of diagnostic tests (e.g. radiographs, photographs) <i>Lateral radiographs of target teeth after orthodontic treatment is also required. I assume you did so but forgot to attach</i>	2	1
Correct or justified diagnosis <i>Comments:</i>	2	2
Adequate or appropriate medical management <i>Comments:</i>	2	2
Adequate oral / dental treatment <i>Comments: there is temporary crown extension not just crown extension; not gingivectomy is not recommended term</i>	4	3
Adequate anaesthetic and analgesic management <i>Comments:</i>	2	2
Adequate follow-up for the case report to be meaningful <i>Comments:</i>	1	1
Appropriate discussion, adequately referenced <i>Comments:</i>	2	2
Language and word count adequate <i>Comments: restoration not restauration</i>	1	1
Special features not covered above <i>Comments:</i>	1	1
TOTAL POINTS / GRADE	20	18

☒ Case report sufficient (≥ 10 points)

☐ Case report insufficient (< 10 points)

☐ Case report can be resubmitted with modifications

☐ Case report cannot be resubmitted