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LAMPIRAN

1. Surat Izin Penelitian

KEMENTERIAN PENDIDIKAN, KEBUDAYAAN,
RISET, DAN TEKNOLOGI
UNIVERSITAS HASANUDDIN
FAKULTAS KEDOKTERAN GIGI
Jalan Perintis Kemerdekaan Km. 10, Makassar 90245
Telepon (0411) 586012, Faximile (0411) 584641
Laman www.unhas.ac.id Email fdhu@unhas.ac.id

Nomor : 00075/UN4.13/PT.01.04/2024 5 Januari 2024
Hal : **Izin Penelitian**

Yth.
1. Dekan Fakultas Kedokteran Gigi
2. Dekan Fakultas Teknik
Universitas Hasanuddin
Makassar

Dengan hormat kami sampaikan bahwa mahasiswa **Program Studi Pendidikan Dokter Gigi Spesialis (PPDGS) Konservasi Gigi** Fakultas Kedokteran Gigi Universitas Hasanuddin bermaksud untuk melakukan penelitian.

Sehubungan dengan hal tersebut, mohon kiranya dapat diberikan **izin penelitian** kepada peneliti di bawah ini:

Nama / NIM : **Sulastri / J025211006**
Waktu Penelitian : Januari 2024 s.d. Selesai
Tempat Penelitian : Laboratorium Konservasi Fakultas Kedokteran Gigi UniversitasHasanuddin dan Laboratorium Metalurgi Fisik Fakultas Teknik Universitas Hasanuddin
Pembimbing : 1. Nurhayaty Natsir, drg., Ph.D., Sp.KG., Subsp.KR (K).
2. Noor Hikmah, drg., M.KG., Sp.KG., Subsp.KE (K).
Judul Penelitian : Evaluasi Ketahanan Fraktur pada Gigi Pasca Perawatan Endodontik yang Direstorasi dengan Resin Komposit Bulk-fill (*In Vitro*)

Demikian permohonan kami, atas perhatian dan kerjasama yang baik diucapkan terima kasih.

a.n. Dekan,
Wakil Dekan Bidang Akademik dan Kemahasiswaan

Acing Habibie Mude, drg., Ph.D., Sp.Pros., Subsp.OGST(K).
NIP 198102072008121002

Tembusan:
1. Dekan FKG Unhas;
2. Kepala Bagian Tata Usaha FKG Unhas;
3. Kepala Laboratorium Konservasi FKG Unhas;
4. Kepala Laboratorium Metalurgi Fisik FT Unhas.

2. Surat Rekomendasi Persetujuan Komite Etik Penelitian

KEMENTERIAN PENDIDIKAN, KEBUDAYAAN, RISET, DAN TEKNOLOGI
UNIVERSITAS HASANUDDIN
FAKULTAS KEDOKTERAN GIGI
RUMAH SAKIT GIGI DAN MULUT PENDIDIKAN
KOMITE ETIK PENELITIAN KESEHATAN
Sekretariat : JL.Kandea No. 5 Makassar Lantai 2, Gedung Lama RSGM Unhas
Contact Person: drg. Muhammad Ikbal, Sp.Pros/Nur Aedah AR TELP. 081342971011/08114919191

REKOMENDASI PERSETUJUAN ETIK
Nomor: 0035/PL.09/KEPK FKG-RSGM UNHAS/2024

Tanggal: 19 Februari 2024

Dengan ini menyatakan bahwa protokol dan dokumen yang berhubungan dengan protokol berikut ini telah mendapatkan persetujuan etik:

No. Protokol	UH 17121048	No Protokol Sponsor	
Peneliti Utama	drg. Sulastri	Sponsor	Pribadi
Judul Peneliti	Evaluasi Ketahanan Fraktur pada Gigi Pasca Perawatan Endodontik yang Direstorasi dengan Resin Komposit Bulk-fill (In Vitro)		
No. Versi Protokol	1	Tanggal Versi	05 Februari 2024
No. Versi Protokol		Tanggal Versi	
Tempat Penelitian	1. Laboratorium Konservasi Gigi Fakultas Kedokteran Gigi Universitas Hasanuddin 2. LaboratoriumMetalurgiFisikFakultasTeknikMesinUniversitas Hasanuddin.		
Dokumen Lain			
Jenis Review	[x] Exempted [ ] Expedited [ ] Fullboard	Masa Berlaku 19 Februari 2024-19 Februari 2025	Frekuensi Review Lanjutan
Ketua Komisi Etik Penelitian	Nama: Dr. drg. Marhamah, M.Kes	Tanda Tangan	Tanggal 08 Januari 2024
Sekretaris Komisi Etik Penelitian	Nama: drg. Muhammad Ikbal, Sp.Pros	Tanda Tangan	Tanggal 08 Januari 2024

Kewajiban peneliti utama:

- Menyerahkan Amandemen Protokol untuk persetujuan sebelum diimplementasikan
- Menyerahkan laporan SAE ke Komisi Etik dalam 24 Jam dan dilengkapi dalam 7 hari dan lapor SUSAR dalam 72 jam setelah peneliti utama menerima laporan.
- Menyerahkan laporan kemajuan (*progress report)* setiap 6 bulan untuk penelitian resiko tinggi dan setiap setahun untuk penelitian resiko rendah.
- Menyerahkan laporan akhir setelah penelitian berakhir.
- Melaporkan penyimpangan dari protokol yang disetujui (*protocol deviation/violation)*
- Mematuhi semua aturan yang berlaku.

3. Surat Keterangan Pengambilan Data

LABORATORIUM METALURGI FISIK
KEMENTERIAN PENDIDIKAN DAN KEBUDAYAAN
UNIVERSITAS HASANUDDIN FAKULTAS TEKNIK
Jalan Poros Malino KM, 6 Bontomarannu Gowa, 92171, Sulawesi Selatan

SURAT KETERANGAN PENGAMBILAN DATA
04/DTM-MF.UH/V/2024

Yang bertanda tangan di bawah ini menerangkan bahwa:

Nama	:	Sulastri
Fakultas/Universitas	:	Fakultas Kedokteran Gigi / Universitas Hasanuddin
NIM	:	J025211006
Judul Penelitian	:	Evaluasi Ketahanan Fraktru pada Gigi Pasca Perawatan Endodontik yang Direstorasi dengan Resin Komposit Bulk-fill (*in vitro*)

Telah melakukan pengambilan data berupa pengujian tekan untuk keperluan penelitian/tugas akhir dengan judul seperti tersebut di atas.

Gowa, 9 Mei 2024

Kepala Laboratorium,

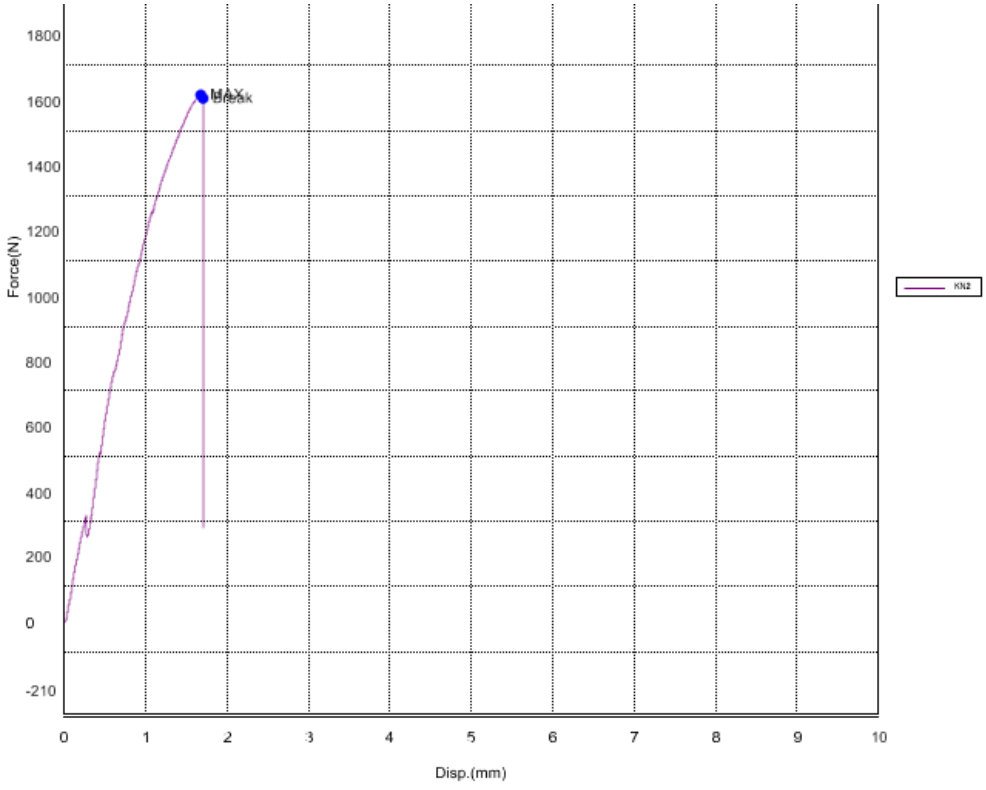
Dr. Eng. Lukmanul Hakim Arma, ST.,MT
Nip. 197404151999031001

4. Hasil Uji Ketahanan Fraktur

Kelompok KN (Kontrol Negatif)

Key Word		**Product Name**	
Test File Name	KN	**Method File Name**	Geser Gigi Imax
Report Date	2024/01/05	**Test Date**	2024/01/05
Test Type	Compression	**Speed**	1mm/min
Shape	Rod	**No of Batches:**	6
Qty/Batch:	1		

Name	Max_Force	Max_Disp.	Break_Force	Break_Disp.
Parameter	Calc. at Entire Area N	Calc. at Entire Area	Sensitivity 10N	Sensitivity 10
Unit		mm		mm
KN1	1250.53	0.6675	1250.53	0.6675
KN2	1622.29	1.69303	1611.34	1.71087
KN3	1525.34	1.6527	1518.05	1.6862
KN4	1269.66	0.8042	1269.66	0.8042
KN5	1226.6	1.0966	1226.6	1.0966
KN6	1753.95	5.14627	1753.95	5.14627

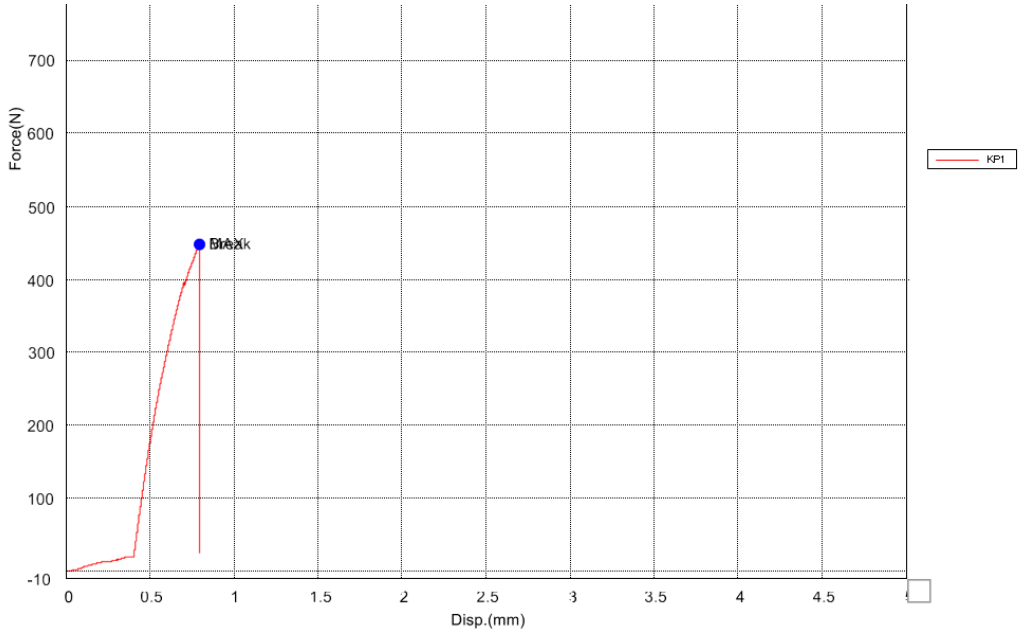


Grafik Uji Ketahanan Fraktur Sampel KN2

Kelompok KP (Kontrol Positif)

Key Word		**Product Name**	
Test File Name	KP	**Method File Name**	Geser Gigi.lmax
Report Date	2024/01/05	**Test Date**	2024/01/05
Test Type	Compression	**Speed**	1mm/min
Shape	Rod	**No of Batches:**	6
Qty/Batch:	1		

Name	Max_Force	Max_Disp.	Break_Force	Break_Disp.
Parameters	Calc. at Entire AreaN	Calc. at Entire Area	Sensitivity 10N	Sensitivity 10mm
Unit		mm		
KP1	449.963	0.78887	449.963	0.78887
KP2	370.486	0.37307	370.486	0.37307
KP3	519.675	1.08240	519.675	1.08240
KP4	320.153	0.71913	320.153	0.71913
KP5	455.667	0.74553	455.667	0.74553
KP6	255.269	0.14820	-.-	-.-

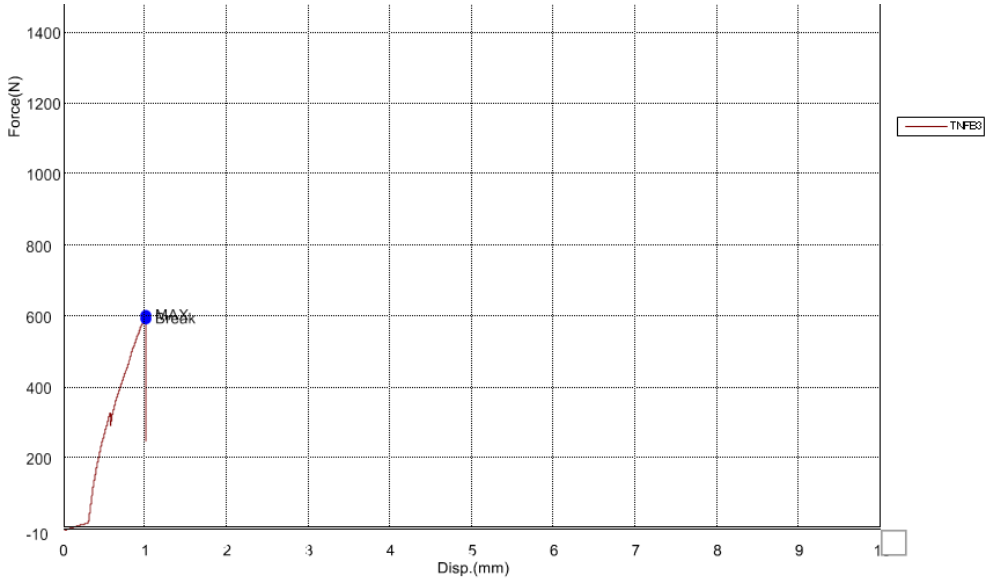


Grafik Uji Ketahanan Fraktur Sampel KP1

Kelompok TNB (Tetric N-Flow Bulk-fill)

Key Word		**Product Name**	
Test File Name	TNFB	**Method File Name**	Geser Gigi.lmax
Report Date	2024/01/05	**Test Date**	2024/01/05
Test Type	Compression	**Speed**	1mm/min
Shape	Rod	**No of Batches:**	6
Qty/Batch:	1		

Name	Max_Force	Max_Disp.	Break_Force	Break_Disp.
Parameters	Calc. at Entire Area	Calc. at Entire Area	Sensitivity 10	Sensitivity 10
Unit	N	mm	N	mm
TNFB1	584.638	0.81450	584.638	0.81450
TNFB2	665.909	0.87787	665.909	0.87787
TNFB3	606.089	1.00353	598.291	1.00787
TNFB4	640.104	1.24207	640.104	1.24207
TNFB5	633.605	1.41123	633.605	1.41123
TNFB6	520.200	0.89027	520.200	0.89027

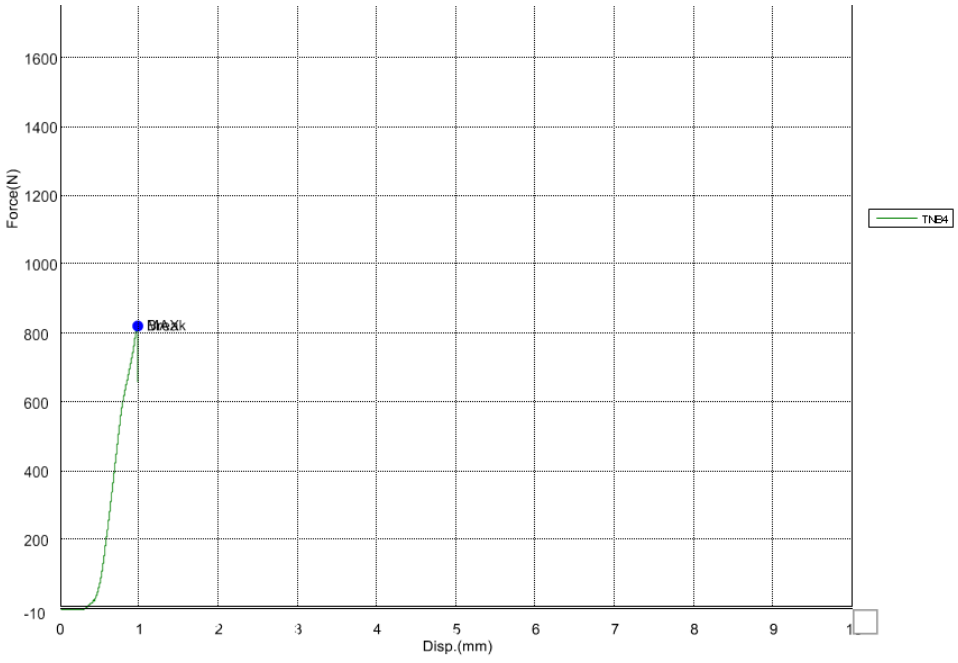


Grafik Uji Ketahanan Fraktur Sampel TNFB3

Kelompok TNB (Tetric N-Ceram Bulk-fill)

Key Word		**Product Name**	
Test File Name	TNB	**Method File Name**	Geser Gigi Imax
Report Date	2024/01/05	**Test Date**	2024/01/05
Test Type	Compression	**Speed**	1mm/min
Shape	Rod	**No of Batches:**	6
Qty/Batch:	1		

Name	Max_Force	Max_Dis.	Break_Force	Break_Disp.
Parameters	Calc. at Entire	Calc. at Entire Area	Sensitivity 10	Sensitivity 10
Unit	AreaN	mm	N	mm
TNB1	849.316	2.97790	849.316	2.97790
TNB2	764.342	0.88460	764.342	0.88460
TNB3	797.986	0.88800	544.217	1.01783
TNB4	823.601	0.97443	823.601	0.97443
TNB5	819.115	0.56587	819.115	0.56587
TNB6	678.658	1.35687	595.370	2.52653

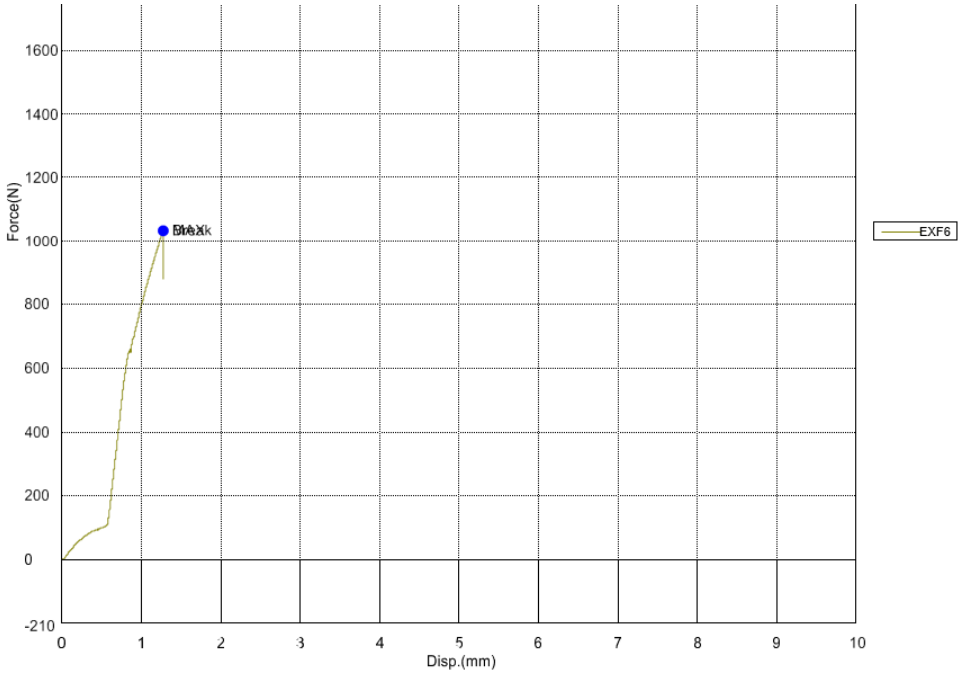


Grafik Uji Ketahanan Fraktur Sampel TNB4

Kelompok EXF (EverX Flow)

Key Word		**Product Name**	
Test File Name	EXF	**Method File Name**	Geser Gigi Imax
Report Date	2024/01/05	**Test Date**	2024/01/05
Test Type	Compression	**Speed**	1mm/min
Shape	Rod	**No of Batches:**	6
Qty/Batch:	1		

Name	Max_Force	Max_Disp	Break_Force	Break_Disp
Parameter	Calc. at Entire	Calc. at Entire Area	Sensitivity 10	Sensitivity 10
Unit	Area N	mm	N	mm
EXF1	1087.40	1.11030	1087.40	1.11030
EXF2	1137.03	0.94407	1134.68	0.94857
EXF3	917.382	2.02673	917.382	2.02673
EXF4	876.206	1.59790	843.566	1.61907
EXF5	1032.81	1.28140	1032.81	1.28140
EXF6	737.897	0.55410	737.897	0.55410

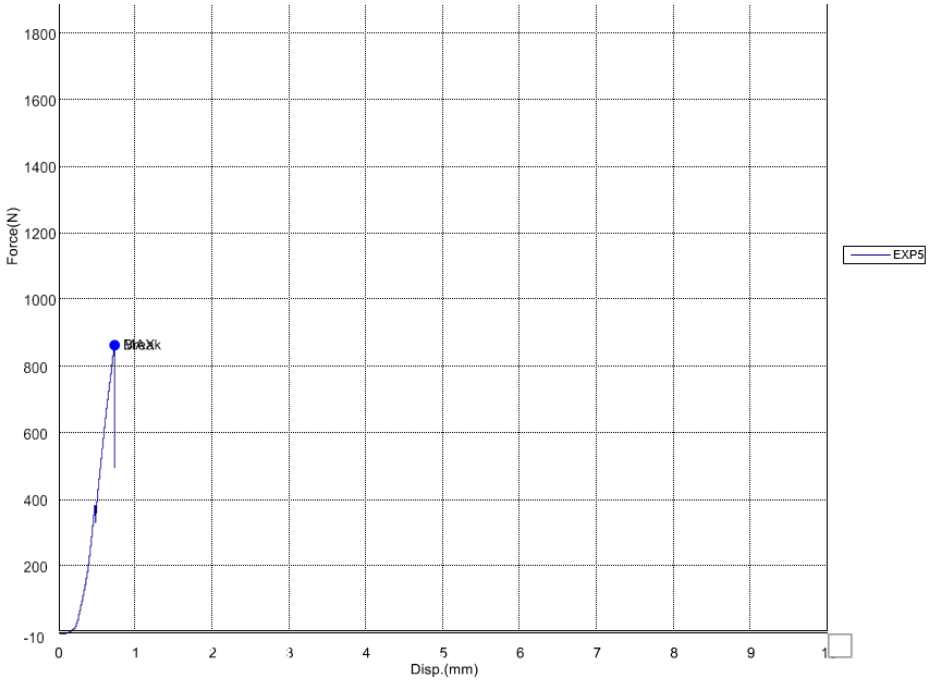


Grafik Uji Ketahanan Fraktur Sampel EXF6

Kelompok EXP (EverX Posterior)

Key Word		**Product Name**	
Test File Name	EXP	**Method File Name**	Geser Gigi Imax
Report Date	2024/01/05	**Test Date**	2024/01/05
Test Type	Compression	**Speed**	1mm/min
Shape	Rod	**No of Batches:**	6
Qty/Batch:	1		

Name ParametersUnit	Max_Force Calc. at Entire Area N	Max_Disp Calc. at Entire Area mm	Break_Force Sensitivity 10 N	Break_Disp. Sensitivity 10 mm
EXP1	1064.87	0.73320	1064.87	0.73320
EXP2	1146.09	0.99987	1146.09	0.99987
EXP3	1073.85	0.95060	1073.85	0.95060
EXP4	958.267	1.00623	958.267	1.00623
EXP5	867.980	0.72607	867.980	0.72607
EXP6	1156.34	1.09640	979.817	1.68620



Grafik Uji Ketahanan Fraktur Sampel EXP5

5. Hasil Analisis Uji Statistik Menggunakan SPSS 26 For Windows

Case Processing Summary

	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
FS * Kelompok	36	100.0%	0	0.0%	36	100.0%

Report

FS

Kelompok	Mean	Std. Deviation	Median	Minimum	Maximum
Negatif	1441.3950	223.39187	1397.5000	1226.60	1753.95
Positif	395.2022	97.95181	410.2245	255.27	519.67
TNFB	608.4242	51.56924	619.8470	520.20	665.91
TNB	788.8363	61.00184	808.5505	678.66	849.32
EXF	964.7875	148.93061	975.0960	737.90	1137.03
EXP	1044.5662	111.98258	1069.3600	867.98	1156.34
Total	873.8686	358.60105	836.4585	255.27	1753.95

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
FS	36	100.0%	0	0.0%	36	100.0%

Descriptives

			Statistic	Std. Error
FS	Mean		873.8686	59.76684
	95% Confidence Interval for Mean	Lower Bound	752.5354	
		Upper Bound	995.2017	
	5% Trimmed Mean		860.9906	
	Median		836.4585	
	Variance		128594.716	
	Std. Deviation		358.60105	
	Minimum		255.27	
	Maximum		1753.95	
	Range		1498.68	
	Interquartile Range		511.65	
	Skewness		.501	.393
	Kurtosis		.001	.768

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
FS	.081	36	.200*	.974	36	.550

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

ANOVA

FS

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3997817.450	5	799563.490	47.688	.000
Within Groups	502997.600	30	16766.587		
Total	4500815.050	35			

Multiple Comparisons

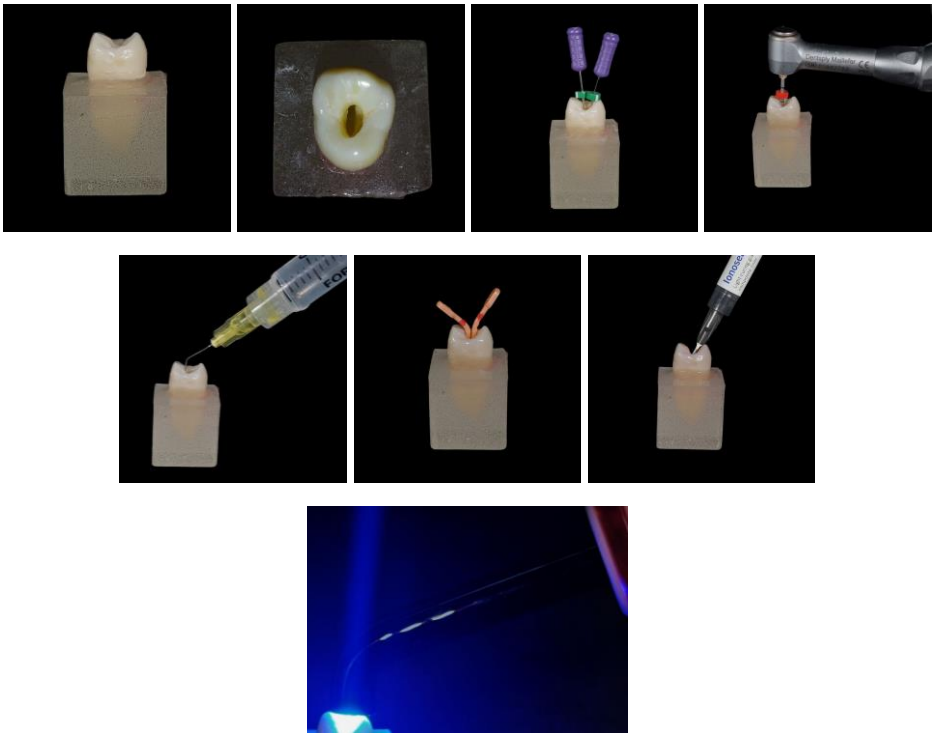
Dependent Variable: FS

LSD

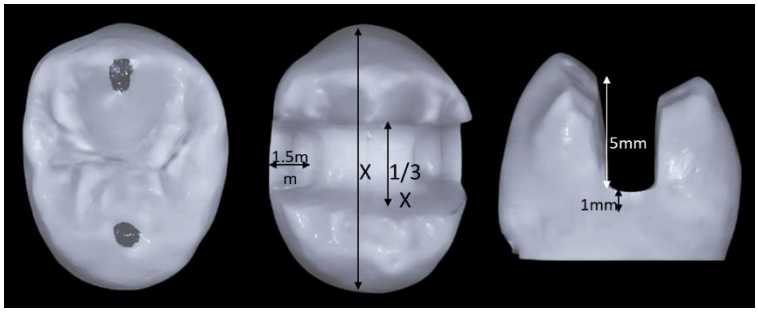
(I) Kelompok	(J) Kelompok	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
Negatif	Positif	1046.19283*	74.75869	.000	893.5152	1198.8705
	TNFB	832.97083*	74.75869	.000	680.2932	985.6485
	TNB	652.55867*	74.75869	.000	499.8810	805.2363
	EXF	476.60750*	74.75869	.000	323.9299	629.2851
	EXP	396.82883*	74.75869	.000	244.1512	549.5065
Positif	Negatif	-1046.19283*	74.75869	.000	-1198.8705	-893.5152
	TNFB	-213.22200*	74.75869	.008	-365.8996	-60.5444
	TNB	-393.63417*	74.75869	.000	-546.3118	-240.9565
	EXF	-569.58533*	74.75869	.000	-722.2630	-416.9077
	EXP	-649.36400*	74.75869	.000	-802.0416	-496.6864
TNFB	Negatif	-832.97083*	74.75869	.000	-985.6485	-680.2932
	Positif	213.22200*	74.75869	.008	60.5444	365.8996
	TNB	-180.41217*	74.75869	.022	-333.0898	-27.7345
	EXF	-356.36333*	74.75869	.000	-509.0410	-203.6857
	EXP	-436.14200*	74.75869	.000	-588.8196	-283.4644
TNB	Negatif	-652.55867*	74.75869	.000	-805.2363	-499.8810
	Positif	393.63417*	74.75869	.000	240.9565	546.3118
	TNFB	180.41217*	74.75869	.022	27.7345	333.0898
	EXF	-175.95117*	74.75869	.025	-328.6288	-23.2735
	EXP	-255.72983*	74.75869	.002	-408.4075	-103.0522
EXF	Negatif	-476.60750*	74.75869	.000	-629.2851	-323.9299
	Positif	569.58533*	74.75869	.000	416.9077	722.2630
	TNFB	356.36333*	74.75869	.000	203.6857	509.0410
	TNB	175.95117*	74.75869	.025	23.2735	328.6288
	EXP	-79.77867	74.75869	.294	-232.4563	72.8990
EXP	Negatif	-396.82883*	74.75869	.000	-549.5065	-244.1512
	Positif	649.36400*	74.75869	.000	496.6864	802.0416
	TNFB	436.14200*	74.75869	.000	283.4644	588.8196
	TNB	255.72983*	74.75869	.002	103.0522	408.4075
	EXF	79.77867	74.75869	.294	-72.8990	232.4563

*. The mean difference is significant at the 0.05 level.

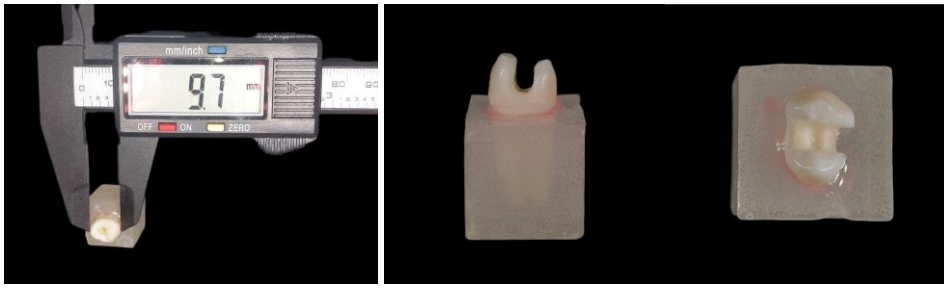
6. Dokumentasi Penelitian



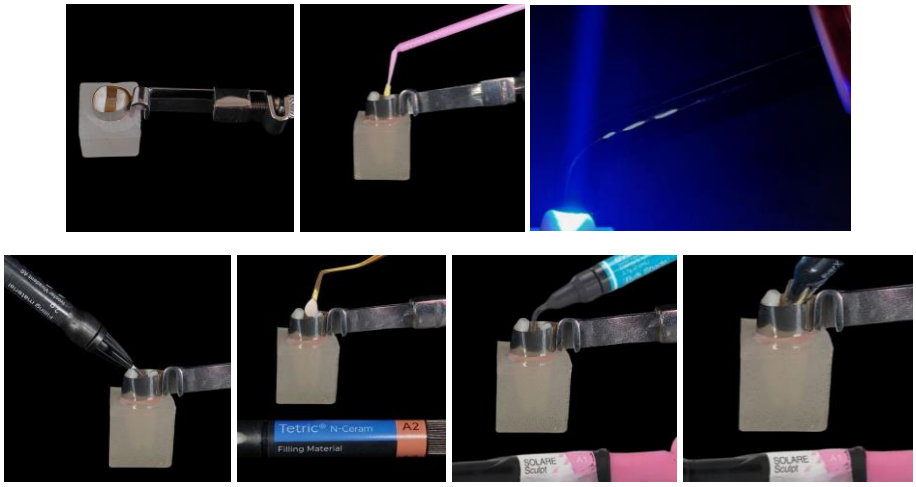
Prosedur perawatan saluran akar



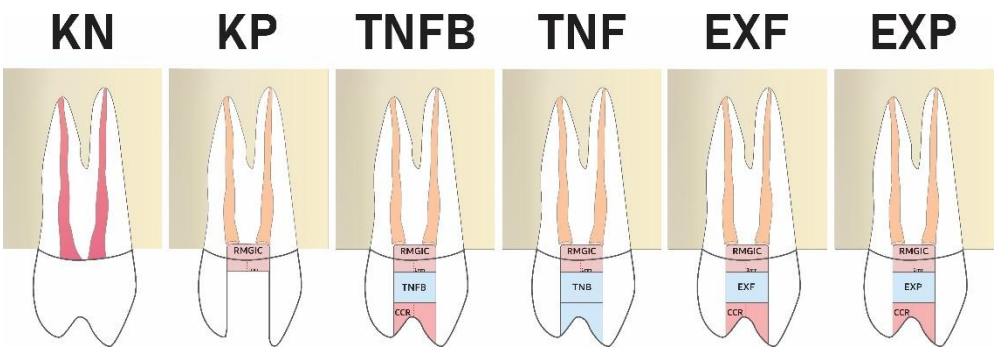
Gambar ilustrasi dimensi kavitas MOD



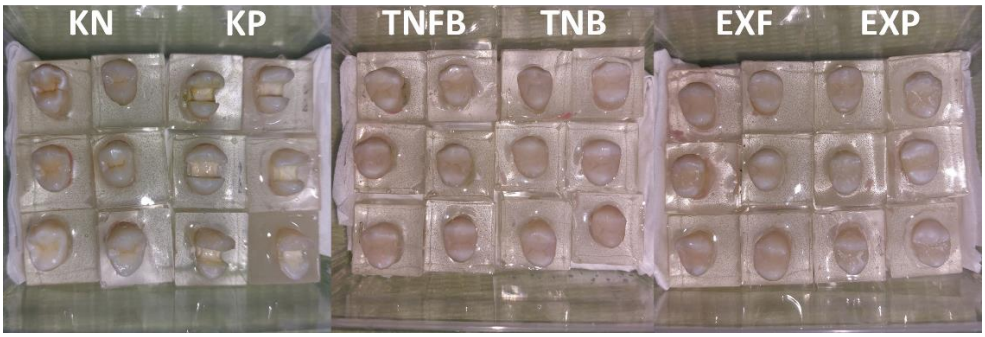
Gambar pengukuran lebar buko-palatal dan kavitas MOD



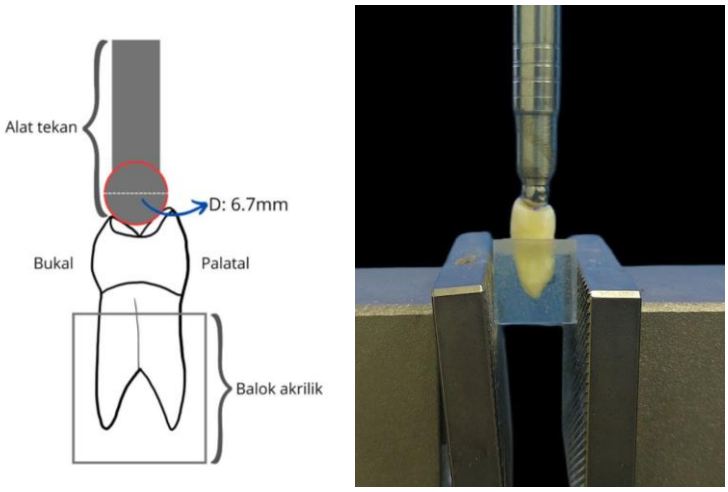
Gambar Prosedur Restorasi



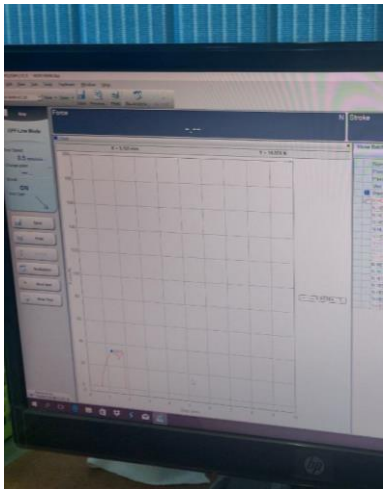
Gambar ilustrasi kelompok penelitian



Gambar 36 Sampel Pada Seluruh Kelompok Penelitian



Ilustrasi dan Gambar Uji Ketahanan Fraktur



Gambar Alat dan Prosedur Uji Ketahanan Fraktur

7. Riwayat Hidup Penulis

A. Data Pribadi

1. Nama : Sulastri
2. TTL : Ujung Pandang, 18 Agustus 1990
3. Jenis Kelamin : Perempuan
4. Alamat : BTP Jl. Tamalanrea Raya Blok 9M/21, Kota Makassar
5. Kewarganegaraan : Indonesia

B. Riwayat Pendidikan

1. SD Inpres Tamalanrea 1 1996-2002
2. SMP Negeri 12 Makassar 2002-2005
3. SMA Islam Athirah Makassar 2005-2008
4. S1 (S.KG) FKG Universitas Hasanuddin 2009-2012
5. Profesi (drg.) FKG Universitas Hasanuddin 2012-2015
6. PPDGS Konservasi Gigi FKG Universitas Hasanuddin 2021-2024

C. Riwayat Pekerjaan

1. Dokter Kontrak Daerah Kab. Soppeng, Sulawesi Selatan
2. Pegawai Negeri Sipil (PNS) Daerah Kab. Sidrap, Sulawesi Selatan

D. Karya Ilmiah terpublikasi

Sulastri, Nugroho JJ, Hikmah N, Natsir N, Trilaksana AC, Dwiandhany WS. *Endodontic Reintervention in Mandibular Second Molar with C-Shape Canals and Internal Root Resorption: A Case Report.* Journal of Case Reports in Dental Medicine. 2023 Sep 1;5(3):56-8. DOI: https://doi.org/10.20956/jcrdm.v5i3.223