

# Pain management with IUD insertion FIAPAC 2024

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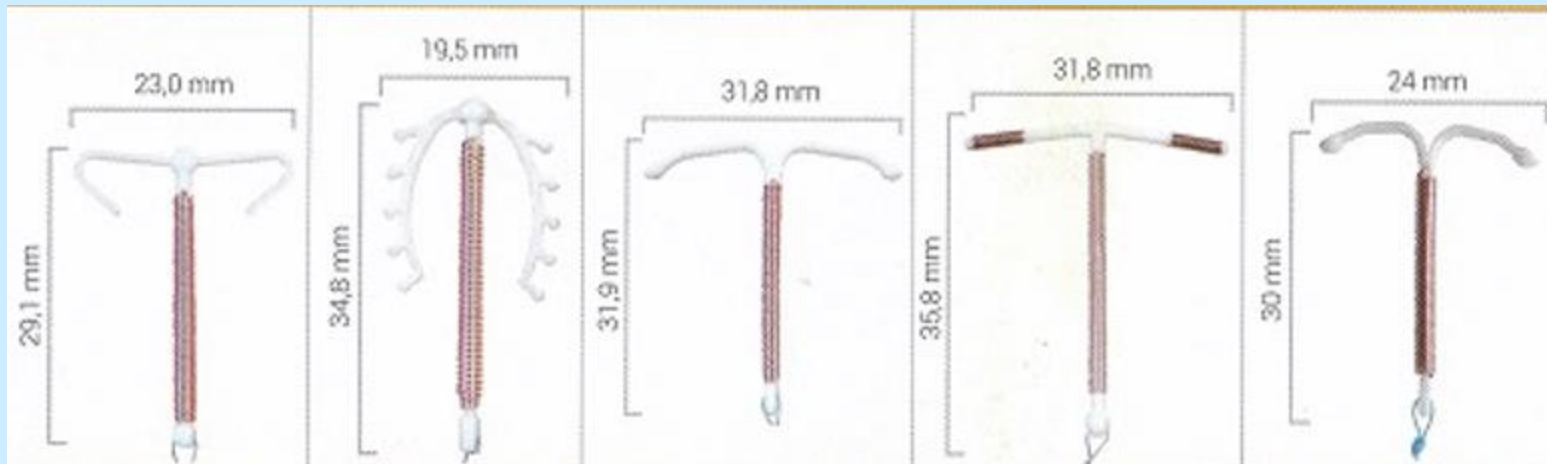
- Intrauterine Devices (IUD) are highly effective and safe also in young nullipara, yet anxiety and fear of pain during the insertion is a barrier to their use
- Offering the choice to make insertion less painful, will encourage more young women to use IUD



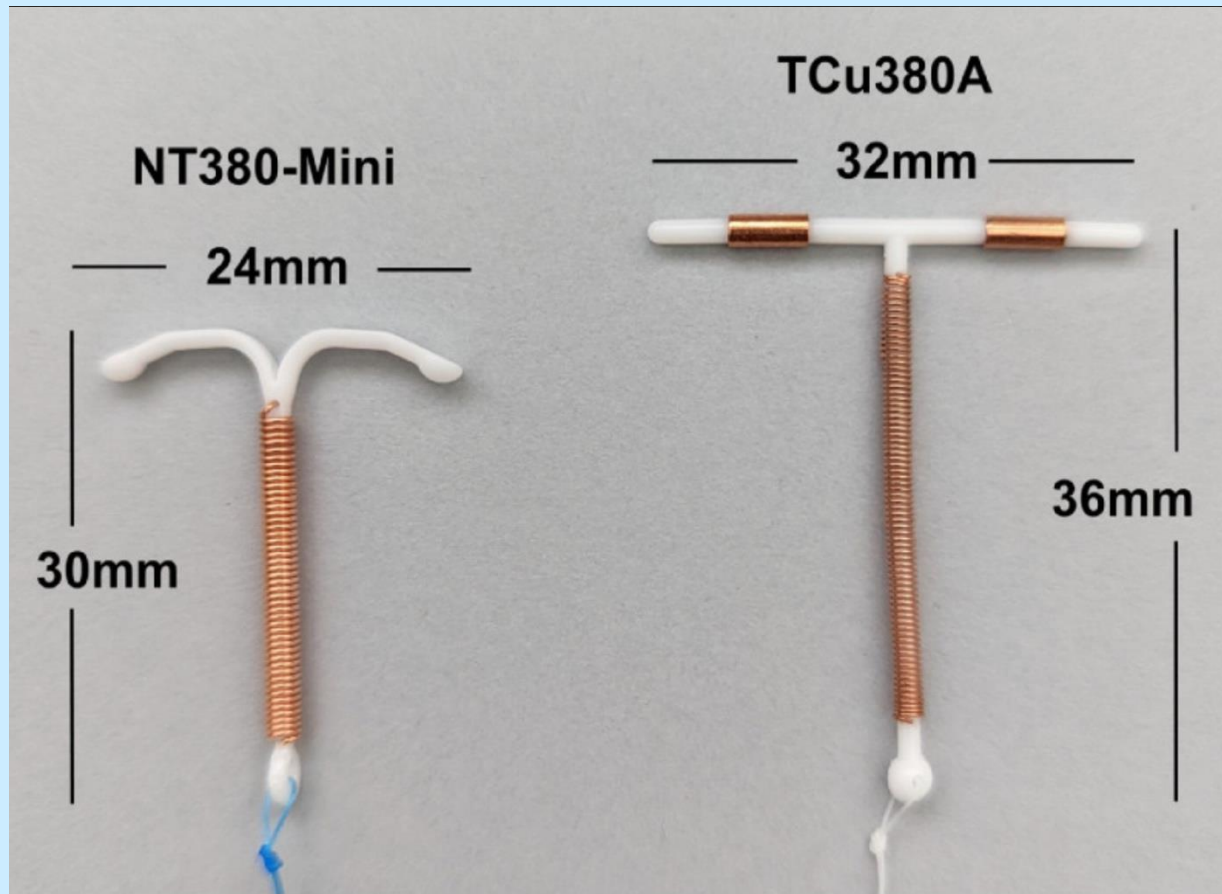
# Before fixing an IUD

- IUD before?
  - Pain during insertion?
  - failed or difficult insertion?
  - Repeat expulsions?
  - Problems?
- **Mood** problems?
- **Anxiety** for insertion? (sexual trauma, ...)
- Seriously retroverted uterus?

# Which copper IUD for nullipara?



# MI-MONA-Sert 380 mini



# GyneFix 200-330

nullipara, history of expulsions,

## Dismenorrhea







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# Levonorgestrel IUD

## lower dosed are narrower

Quantité totale de lévonorgestrel (LNG)	13,5 mg	19,5 mg	52,0 mg
Taux de libération moyenne de LNG in vivo durant la première année d'utilisation	8 µg/24 heures <sup>5</sup>	12 µg/24 heures <sup>6</sup>	20 µg/24 heures <sup>5</sup>
Modifications des menstruations après insertion à la fin de l'année 1	Aménorrhée: 6% Oligoménorrhée: 20%	Aménorrhée: 12% Oligoménorrhée: 26%	Aménorrhée: 16% Oligoménorrhée: 57%
Taille du corps en T <sup>5</sup>	28 mm x 30 mm 	28 mm x 30 mm 	32 mm x 32 mm 
Diamètre du tube d'insertion <sup>5</sup>	3,8 mm	3,8 mm	4,4 mm

# When to fix an IUD?

- If you are reasonably sure there is **no pregnancy**
- Insertion during menses:
  - less painful? **NO**
  - Easier? **NO**
- RCT (van der Heijden 2017) compared pain with LNG-IUS insertion in both nulliparous and parous women within days 1-7 of menstruation and at any day without vaginal blood loss and found no difference in pain experienced; (2013: Whiteman).

# Copper IUD as emergency contraception

- **Within 5 days** of the first episode of unprotected sex in that cycle
- **Before implantation:** within 5 days of the earliest expected date of ovulation (implantation: 6 to 10 d after ovulation)

# IUD insertion and PAIN

## Severe Pain:

- 11% of multipara (Heikinheimo 2010)
- **17% of nullipara (Marions 2011) ; 6% fainted**

Underestimation of pain by physicians! ( $p < 0.001$ )  
(Maguire 2014)

- pain evaluated by patients: 64,8 (SD, 27)
- pain evaluated by physicians: 35,3 (SD, 26)

# Risk factors for pain at insertion

- **More pain**

- **Nulligravida** (Chaves 2021, Rahman 2024)
- **Only elective cesarean-delivery** (Chaves 2021)
- **Severe dysmenorrhoea** (Schneyer 2022)
- Greater cervical resistance
- Size of insertion tube
- Placement difficulty

- **Less pain**

- Vaginal birth (Chaves 2021, Rahman 2024)
- breastfeeding

# Who is more at risk for painful IUC insertion

Review Kristina Gemzell-Danielsson 2018

Physical factors detected during routine history or examination	Psychological and sociocultural factors
Low parity (1-2 live births)	Number of years in education ( $\geq 7$ )
Longer interval between last birth and placement (>13 months)	Presence of mood disorders
Nonbreastfeeding at time of placement (irrespective of time since last birth)	History of sexual trauma
Presence of cervical resistance and pain	Previous negative reaction to vaginal examination
Uterine length	Previous placement reported as painful
Dysmenorrhea	Awareness of the potential for pain from a friend or family member
Multiple cesarean deliveries	Anticipation or expectation of pain
Menstruation (for nulligravidas)	Age (adolescence)
Difficulty or pain when using uterine sound	
Size of inserter	

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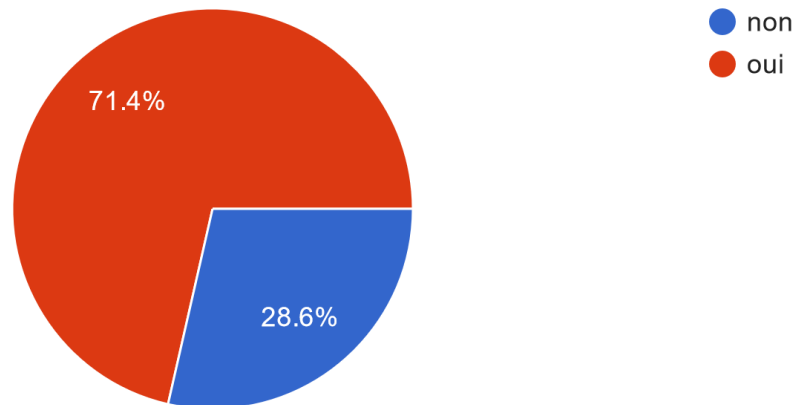
# What can be painful or unpleasant?

- Speculum insertion
- Tenaculum placement
- Dilatation of the cervix
- Uterine sounding (touching the fundus)
- Device placement
- Contractions

# Before fixing an IUD, do you prescribe a painkiller?

Avant le placement d'un DIU, prescrivez-vous un antalgique?

56 responses





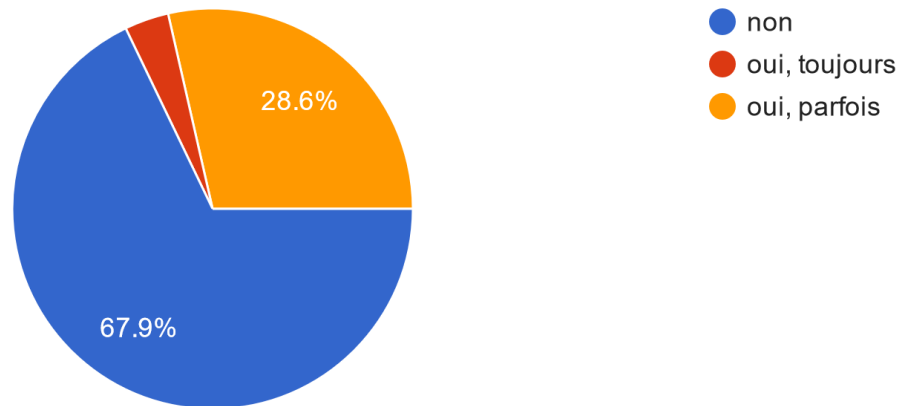
# Oral analgetics

- Recent RCT show NSAID (Ibuprofen, ...) taken before are **not** effective to reduce pain **during** insertion **nor after** insertion! **But Ibuprofen is effective if you have pain after insertion....**
- Oral **Ketorolac** (20mg) 40-60 min before insertion is effective but the difference may be clinically irrelevant
- **Tramadol 50mg** is more effective than **Naproxen 550mg** ( $p=0.003$ ) which is more effective than placebo ( $p=0.001$ ) (very small study with multipara : Karabayirli 2012)

# Before fixing an IUD, do you prescribe misoprostol?

Avant le placement d'un DIU, prescrivez-vous du Misotropol?

56 responses



# Cervical priming: misoprostol

- RCT **Nullipara**: **1h** prior to IUD insertion **very useful!**  
Misoprostol: 400mcg **sublingually** & 100mg diclofenac
- => **insertion** clearly **easier** (Sääv 2007); no less pain
- 2 RCT: **only Cesarean Sections, nullipara**:  
400mcg **vaginally 3-4h** prior to insertion: easier,  
less pain at insertion, but cramps after misoprostol....
- **Discussion pro-contra !!!**
- **No** data support **routine** administration of misoprostol  
before IUD insertion in **nullipara** to diminish pain;  
misoprostol increases abdominal **cramping** (Review  
Matthews 2016).

# Cervical priming

## when recent failed insertion

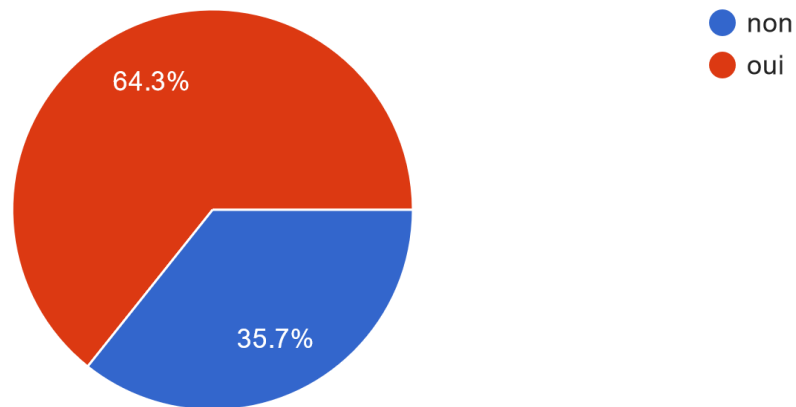
Bahamondes Hum Reprod 2015

- 96% IUDs inserted at first attempt (2535w)
- **100 women: failed attempt** => 200mcg vaginal 10 & 4h before second attempt
- the relative risk (RR) of successful insertions was 1.41 (95% confidence interval (CI) for absolute difference (8.2, 43.0),  $P = 0.0066$ )

# Do you use analgesia or local anesthesia?

Lors du placement du DIU, pratiquez-vous parfois une analgésie ou anesthésie locale?

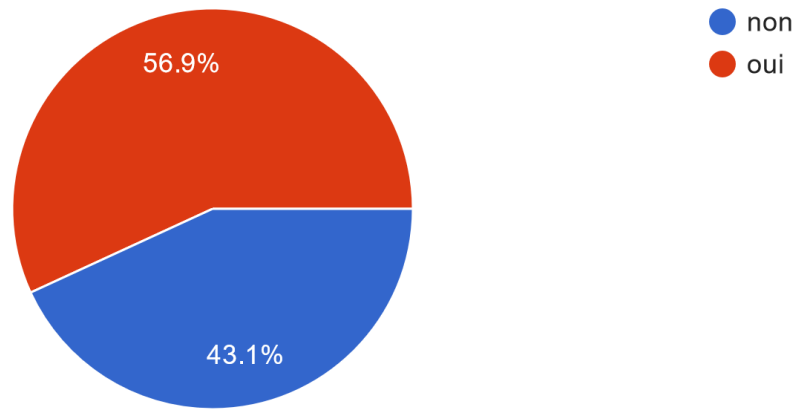
56 responses



# analgesia or local anesthesia at the patient's request?

A la demande de la patiente?

51 responses

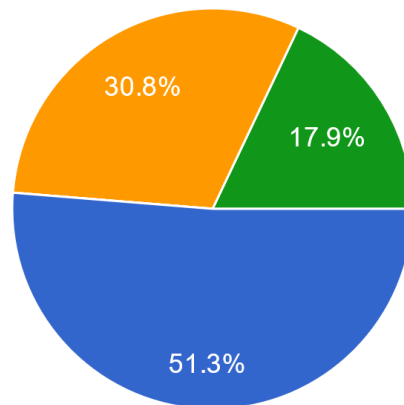


# analgesia or local anesthesia in which case do you offer it?

**Other clinical situations: history of painful or difficult insertion,  
actual difficulties during insertion, anxiety,**

dans quel cas le proposez VOUS?

39 responses



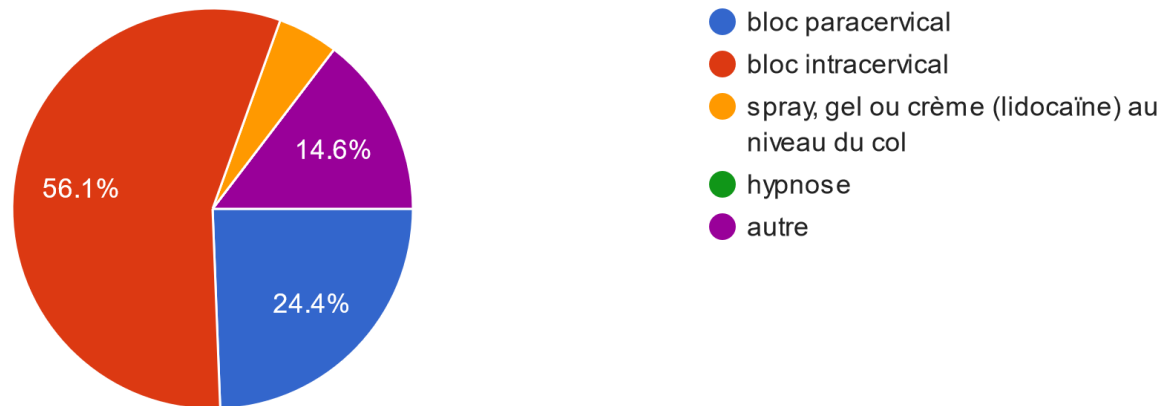
- à toutes
- aux nulligestes
- autres situations cliniques
- aux nulligestes ET aux autres situations cliniques

# if you sometimes use analgesia, which one?

**Other: sedation, propofol, deep intra-myometrium injection, vocal local,  
intracervical bloc with hypnosis**

Si vous pratiquez parfois une analgésie, laquelle?

41 responses





# Topical lidocaine & co

- **Spray Lidocaine 10%** 4 puffs (40mg) left for **3 min** on the cervix and external os of multiparous women is effective to diminish pain of Copper IUD insertion (Panichyawat 2021; Karasu 2017: Spray > more effective than paracervical block > cream; Aksoy 2016: spray better than placebo. **Vaginal irritation!**
- **Cream Lidocaine-prilocaine** (Emla 5%) 4 ml on cervix and in cervical canal alleviates Copper IUD insertion pain among parous women ( $p < 0.001$ ) Abbas 2016. Wait **7 min** with speculum!
- **Instillation Mepivacaine** (10ml 20mg/ml) through hydrosonography catheter **2 min** before insertion of LNG-IUD 52mg in **nulliparous** women: less pain and easier ( $p < 0,001$ ) (Niklas Envall 2024)

- **Lidocaine gel: self-administration via special applicator** of dual-responsive in situ lidocaine gel (2%) ;is active during **30-60 minutes** reduces pain of IUD insertion. Abd Ellah Int J Pharm. 2018, Tornblom 2015)

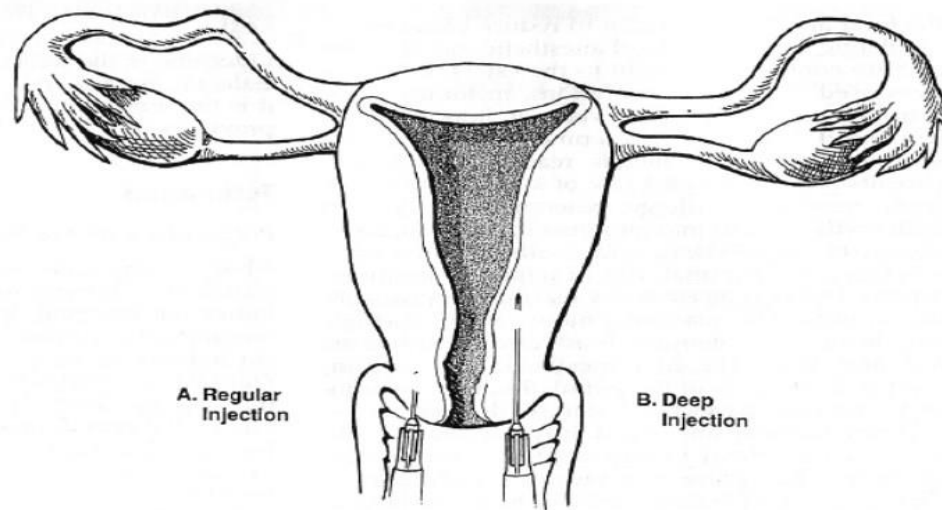
# Injection of lidocain: proven effective:

- Lidocaine 2% 10 cc (or 1% 20 cc)
- Before tenaculum
- Paracervical & intracervical block: effective
- BUT: **deep intracervical** is better
- Regular injection: inject at 4 sites **1,5 cm deep**
- Deep injection: inject at 4 sites **3-5 cm deep**

The improvement in pain scores with deep injection was clinically significant (**25%**) and is recommended (E R Wiebe 1992)

### Technique de l'anesthésie locale du col

63



« L'injection profonde était 25% plus efficace »

Wiebe, . Am J Obstet Gynecol 1992

Les DIU hier, aujourd'hui et demain, C. Fiala

# Instruments to grip the cervix

**2 RCT: No difference in pain:**

- Single tooth tenaculum (Pozzi)



- Vulsellum



- Littlewood forceps



- **Always needed?**

- Novel suction cervical stabiliser?

# Ultrasound guidance during IUD insertion

- **decreases** pain, procedure time, and rates of complications and misplaced IUDs with better patient satisfaction (Review Meta-analysis Saeed Baradwan 2023)
- **Retroverted flexed RVF uterus** is easier and less painful than the blind standard technique (Ahmed M Maged 2021)

# Non-pharmacological intervention

- Assistant providing support & distraction (vocal anaesthetic/vocal local) and can help to do abdominal ultrasound in case of difficult insertion
- Inhaled lavender: less anxiety (no less pain)
- Future ? : soft inflatable membrane for inserting copper IUD without pain (no tenaculum, no uterine sounding)

# Anxiety, fear

- Hypnosis ?
- Virtual Reality exposure therapy?
- **Conscious sedation:** nitrous oxide/oxygen 50/50  
no evidence that inhalation 2 min before insertion  
reduces pain scores (Singh 2016)  
But: greater satisfaction and more individuals  
would recommend IUD to others (Fowler 2022: adolescents)



# Emergency management

- **Don't plan to fix IUD in the last patient, when all your colleagues have left the building!**
- **An available assistant**
- **Atropine 500 or 600 mcg IV/IM: if vagal reaction (bradycardia)**
- Adrenaline 1mg
- Oxygen

# Conclusion

- Offer analgesia to all
- Detect women at risk of having severe pain
- Tailor individual needs!
- **If history of difficult or failed insertion:**
  - NSAID oral 1h < (diclofenac 100mg or Naproxene 550mg or Ketorolac 20mg 2h < ) or Tramadol 50mg
  - Misoprostol 400mcg: Vag 3-4h < or sublingual 1h <
  - Local anesthesia (deep intracervical)
  - Ultrasound guidance (specially if RVF uterus)

# Conclusion

- If we can change the general perception of IUD insertion, more (young) women will dare to choose IUD and be protected against unwanted pregnancy

# references

**Kristina Gemzell-Danielsson: Interventions for the prevention of pain associated with the placement of intrauterine contraceptives: An updated review 2018**

**fsrh-clinical-guideline-intrauterine-contraception-mar23-amended.pdf**

**Does Ultrasound Guidance Provide Pain Relief During Intrauterine Contraceptive Device Insertion? A Systematic Review and Meta-Analysis of RCT (Baradwan J Ultrasound Med 2023)**

**The value of ultrasound guidance during IUD insertion in women with RVF uterus: A randomized controlled trial : 2021 (Maged)**